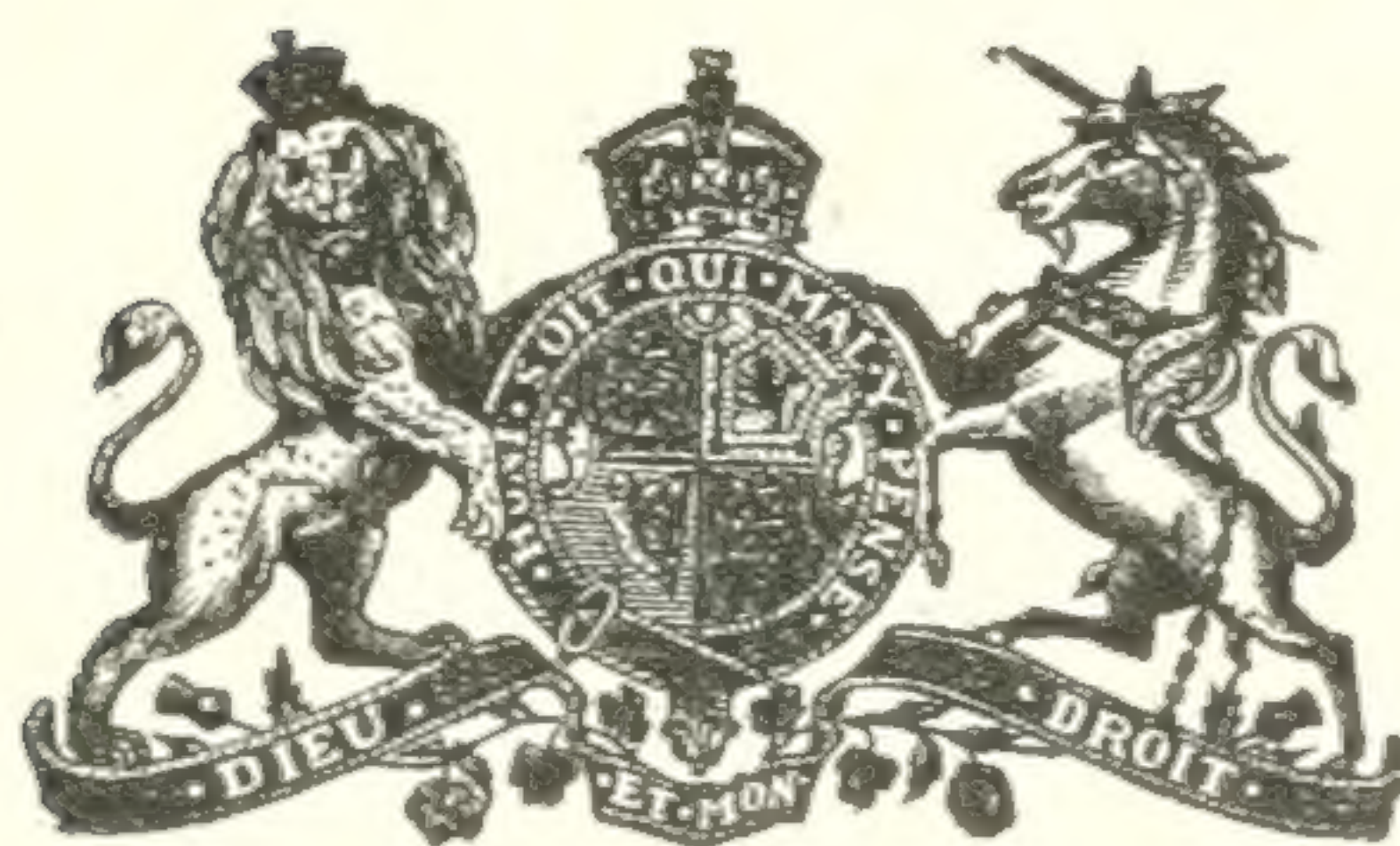


REPORT  
ON THE  
AGRICULTURAL INSTRUCTION  
ACT  
1914-1915

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OTTAWA  
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1916







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OTTAWA, December 31, 1915.

To the Honourable  
MARTIN BURRELL,  
Minister of Agriculture,  
Ottawa.

SIR,—I have the honour to present my report on the work performed under the Agricultural Instruction Act for the year 1914-15.

The work is taken up in the following manner: First, a summary is given showing the chief purposes for which the funds hitherto made available by the Act have been expended in the various provinces of the Dominion; second, a review is presented, by provinces, of the work carried on during the past fiscal year. Financial statements are presented showing receipts and expenditure under (a) the Agricultural Aid Act (summary), and (b) the Agricultural Instruction Act (summary and detailed), to March 31, 1915.

A number of special reviews appear in the Appendix. These relate chiefly to the education of country boys and girls, and should be of value to those interested in the problems incidental to country life.

I have the honour to be, sir,

Your obedient servant,

C. C. JAMES,  
*Commissioner.*



STATEMENT OF FEDERAL APPROPRIATIONS TO THE PROVINCES, UNDER THE AGRICULTURAL  
AID ACT, 1912, AND THE AGRICULTURAL INSTRUCTION ACT 1913-14,  
1914-15 AND 1915-16.

	1912-13.	1913-14.	1914-15.	1915-16.
	\$ cts.	\$ cts.	\$ cts.	\$ cts.
Prince Edward Island.....	6,529 85	26,529 85	27,832 81	29,138 28
Nova Scotia.....	34,288 45	54,288 45	61,144 45	68,001 87
New Brunswick.....	24,509 93	44,509 93	49,407 20	54,308 40
Quebec.....	139,482 40	159,482 40	187,409 16	215,310 70
Ontario.....	175,733 32	195,733 32	230,868 83	266,013 64
Manitoba.....	31,730 05	51,730 05	58,075 45	64,421 31
Saskatchewan.....	34,296 29	54,296 29	61,152 31	68,011 04
Alberta.....	26,094 95	46,094 95	51,310 41	56,528 82
British Columbia.....	27,334 76	47,334 76	52,799 38	58,265 94
Veterinary Colleges.....		20,000 00	20,000 00	20,000 00
Total.....	500,000 00	700,000 00	800,000 00	900,000 00

DATES on which payments were made to the Provinces of the grants for 1914-15, and amount of payments.

Ontario.....	June 19, 1914.....	\$115,434 41
	Nov. 26, 1914.....	115,434 41
Quebec.....	July 16, 1914.....	93,704 58
	Jan. 8, 1915.....	93,704 58
Alberta.....	July 3, 1914.....	25,655 20
	Nov. 7, 1914.....	25,655 21
New Brunswick.....	July 7, 1914.....	24,703 60
	Jan. 4, 1915.....	24,703 60
Prince Edward Island.....	July 11, 1914.....	13,916 40
	Jan. 12, 1915.....	6,000 00
	Jan. 30, 1915.....	7,916 41
Saskatchewan.....	July 7, 1914.....	30,576 15
	April 8, 1915.....	30,576 16
Nova Scotia.....	June 24, 1914.....	30,572 22
	Aug. 19, 1914.....	10,000 00
	Sept. 28, 1914.....	20,572 23
Manitoba.....	Aug. 10, 1914.....	29,037 72
	June 4, 1915.....	10,000 00
	June 11, 1915.....	19,037 73
British Columbia.....	June 30, 1914.....	26,399 69
	Jan. 4, 1915.....	10,000 00
	Jan. 30, 1915.....	16,399 69
Ontario Veterinary College.....	No payment.....	15,607 85
School of Veterinary Science, Montreal.....	Jan. 30, 1915.....	4,392 15
		\$800,000 00



## REPORT ON THE AGRICULTURAL INSTRUCTION ACT FOR THE YEAR 1914-15.

*Tabled in pursuance of Section 8 of the above named Act.*

### GENERAL SURVEY.

#### AGRICULTURAL INSTRUCTION IN SCHOOLS.

A study of the reviews presented in the Appendix makes it apparent that the movement to introduce the teaching of agriculture, manual training and home economics in schools in the United States is becoming very widespread, and that the intention is apparent to make these subjects an integral part of the general course of instruction in schools, rather than to provide special schools for specific subjects.

The question of efficient rural schools is one of the pressing problems of the day. Perhaps 95 per cent of the farm boys and girls receive in one-teacher schools the only schooling they ever obtain. That these schools are of very low efficiency is admitted by all who have given any thought to the subject. They are not equipped, and unless under some form of centralization, are not capable of being equipped in such a manner as to meet effectually the needs of present day rural life. Upon these schools must rest, therefore, much of the responsibility for ineffective farming, lack of ideals, and drift towards towns and cities.

It would seem that the problem is being solved in many states, first, by the Consolidated School, which makes industrial subjects and high-school work possible; and, second, by the introduction of special courses in the regular high school.

The case against the rural school is fully as strong in Canada as in the United States. The mental training given in such schools is inadequate. The special training, such as would enable the boy and girl to cope intelligently with and overcome the problems presented by rural life, is non-existent. The result is low achievement and discontent. The blame is placed on unfavourable economic conditions, whereas it is perhaps more often due to lack of the mental equipment necessary to take advantage of the scientific knowledge at the farmer's disposal or to enable him to hold his own as a force in industrial life.

A number of attempts are being made to overcome the deficiencies of the rural school. In Alberta, for example, excellent farm schools have been established, of which a somewhat extended account will be found in the section of the report relating to that province. In short courses for farmers and farmers' sons and daughters carried on by agricultural colleges and district representatives an attempt is seen to provide information that will help to render the community more efficient in life pursuits. It must be borne in mind, however, that education for citizenship is of far greater moment than instruction in the technical operations of crop production, important as those operations may be, and it would be unfortunate to imagine that the mental training the schools should have afforded can be made up by a few weeks at a short course.



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In Canada, if the province of Manitoba be excepted, little has yet been done in the direction of school consolidation; even there agriculture is not in all cases being taught. Where consolidation has been effected in Canada, it would not appear that it has, in many instances, been developed to the point where the more important advantages of the system become available. Consolidation, to be truly successful, must go farther than the gathering together of a larger number of children under one roof; it must provide specialized instruction, secondary education and socializing influences for the whole community, for it is the lack of these that underlies many of the defects of rural life.

The funds made available by the Agricultural Instruction Act may be used to assist public schools to give instruction in agriculture, household economics and farm mechanics. All the provinces except Manitoba, Alberta and Saskatchewan have in some degree availed themselves of this aid. In the provinces of Ontario, British Columbia, Saskatchewan, Nova Scotia and New Brunswick, directors of elementary agricultural education have been appointed. Manitoba already had such an officer. The work undertaken up to the present time has been entirely of a preparatory nature, consisting of the training of teachers and the introduction of nature study and school gardening in the elementary schools. By what means instruction in the more advanced phases of such subjects is to be made generally available, is the problem now confronting the educational authorities, and it is apparent that, under the present one-teacher system of schools, its solution is not easy.

#### SUMMARY OF EXPENDITURE FOR EDUCATION IN AGRICULTURE AND DOMESTIC SCIENCE IN RURAL SCHOOLS, INCLUDING COURSES OF TRAINING FOR TEACHERS.

Ontario.. . . .	\$ 21,045
Quebec.. . . .	19,843
Nova Scotia.. . . .	14,873
New Brunswick.. . . .	14,258
Prince Edward Island.. . . .	11,998
Saskatchewan (Domestic science).. . . .	682
British Columbia.. . . .	12,613
Total.. . . .	<u>\$ 95,312</u>

#### BUILDINGS AND EQUIPMENT.

In six provinces, Ontario, Quebec, Alberta, Nova Scotia, New Brunswick and Prince Edward Island, a portion of the Federal aid has been used to provide additional buildings or equipment, either in connection with, or independent of, the agricultural colleges.

Ontario: To meet the steadily growing demand for accommodation at the Agricultural College, there have been added a field husbandry building, a poultry building and a physics building (under construction); while funds were supplied for the completion of the dairy barns and for the re-construction of the bacteriological building. Building additions were also provided under the Agricultural Aid Act at the Eastern Ontario Live Stock Show, Ottawa, and at the Western Fair, London, and elsewhere. The total expenditure of Federal aid for building purposes until March 31, 1915, amounted to \$195,818.

Quebec: The funds supplied under the Act have been of material assistance to the province of Quebec in providing increased accommodation and equipment for the Agricultural Institute at Oka and the School of Agriculture at Ste. Anne de la Pocatière. Oka has been provided with a new students' residence and improved class-



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room and laboratory facilities, while at Ste. Anne de la Pocatière the college building has been enlarged to accommodate sixty pupils. The arrangement arrived at contemplates that each school shall be allowed \$50,000 for building extension, and as is the case in New Brunswick and Nova Scotia, the cost of construction is financed locally, a certain sum being refunded each year from the grant. The sum paid to the Quebec schools under this head, up to the end of the fiscal year, amounted to \$21,000.

Alberta: Each of the three Schools of Agriculture and Household Science, located on three of the provincial demonstration farms, were enabled to secure additional building equipment through Federal aid. These schools are essentially for farm boys and girls, and ninety-eight per cent of their students come directly from the farm. They have cost, independent of the farms, upwards of \$50,000 each. Their equipment includes the main building, containing a chemical laboratory, dairy, and home economics room, and two smaller structures equipped for blacksmith and carpenter work and live stock judging. The two smaller buildings were provided by the grant, the sum of \$18,380 having been used for this purpose.

The teaching staff comprises a professor of animal husbandry, and instructors in field husbandry, field mechanics, elementary science, home economics, and English. The managers of the farms, who are graduates of the Ontario Agricultural College, lecture on farm management and feeding, while the Superintendent of Demonstration Farms and other provincial officers supplement the work of the regular staff.

An insistent demand exists for more of these schools, and it is probable that within a few years the number will have increased to six or eight, giving instruction to an increasing number of pupils that will make them better farmers and better citizens.

Nova Scotia: Nova Scotia has been enabled by the funds placed at its disposal to enlarge the Agricultural College at Truro and to provide an entomological building and a science building. The latter, costing over one hundred thousand dollars, will be paid for in annual instalments. The Rural Science Training School, at which teachers are prepared for teaching agriculture, was equipped for the work. The grant has also contributed to the cost of providing buildings at five points in the province to be used for exhibition of live stock, instruction in seed selection, apple packing and other short courses, and as the headquarters of the district representative. Since Federal aid first became available, the sum of \$55,230 has been expended in Nova Scotia for the above objects.

New Brunswick: Previous to the passing of the Act, the province of New Brunswick had no facilities of its own for education in agriculture. There being no agricultural college, students' fares were paid to institutions elsewhere, but the number benefiting was few. To help meet this deficiency, the Fisher Vocational School at Woodstock was, with Federal funds, equipped as an agricultural school. Later the school at Sussex was built and equipped by means of the grant, at an approximate cost of \$33,000, the plan being to spread the expenditure over a number of years. This school was opened in the summer of 1915. It is proposed to add a third school at a later date.

The New Brunswick schools are similar, in a general way, to the Alberta schools, and designed with a similar object in view. When all are in operation, the young people in the sections served will have an opportunity of securing at their own door specialized instruction in agriculture and home economics.

In addition, two dairy schools were equipped from the grant, which also contributes to their maintenance, one at Sussex and the other at St. Hilaire, the latter meeting the needs of the French portion of the population. The total expenditure from the subsidy for these purposes was \$30,750.



In Prince Edward Island, two buildings were purchased, one at Charlottetown, to which an extension was made, and one at Summerside. These are now equipped as halls for holding agricultural gatherings, courses in domestic science, in live stock judging, and other phases of agricultural instruction, providing in addition, at Summerside, quarters for the county representative. The total amount provided under the Act in this behalf was \$12,275.

EXPENDITURES FOR BUILDINGS TO MARCH 31, 1915.

Ontario.. . . .	\$ 195,818
Quebec.. . . .	21,000
Alberta.. . . .	18,380
Nova Scotia.. . . .	55,230
New Brunswick.. . . .	30,750
Prince Edward Island.. . . .	12,275
Total.. . . .	<u>\$ 333,453</u>

COLLEGES OF AGRICULTURE.

To enable agricultural colleges and similar institutions to strengthen their teaching staffs, to provide additional equipment, to assist them in carrying on the work of college extension, and to conduct investigations of a scientific nature in the various phases of agriculture upon which instructional work may be based, the Federal subsidy has been drawn upon in the provinces of Saskatchewan, Quebec, Nova Scotia and Prince Edward Island, during the three years as follows:—

Alberta—	
Schools of Agriculture (3) . . . . .	\$ 64,000
Saskatchewan—	
College of Agriculture, University of Saskatchewan, . . . . .	56,148
Quebec—	
Macdonald Agricultural College, Oka Agricultural Institute, School of Agriculture at Ste. Anne de la Platière, and other minor institutions . . . . .	118,850
Nova Scotia—	
Nova Scotia Agricultural College . . . . .	32,000
Prince Edward Island—	
Prince of Wales College . . . . .	8,265
Total . . . . .	<u>\$ 279,263</u>

The above statement is exclusive of all capital expenditure. The Ontario Agricultural College and New Brunswick Schools are not given specific grants. Payments to members of the staff and other officers at these institutions appear under demonstrations and other lines of work.

WOMEN'S WORK.

The organization of Women's Institutes, Home Economic Societies and Homemakers' Clubs has been greatly facilitated by the Federal subsidy. In Nova Scotia, Prince Edward Island and Alberta the initiation of the movement was due almost entirely to this assistance. In New Brunswick and British Columbia the work has been extended. In Quebec, Manitoba and Saskatchewan the extension departments of the agricultural colleges have been organized to include women's organizations. In Ontario, in 1914, the Director of Women's Institutes inaugurated demonstration lectures in domestic science in small groups of institutes, the instructors moving



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from place to place on a schedule, as described in last year's report. This work was proceeded with during the present year. The Macdonald Institute at Guelph, in 1915, organized and carried out a very successful college extension short course in domestic science at Ayr, Ont., with the co-operation of the local institute. (See Appendix.)

The improvement of home conditions and the desire for mental stimulus and a wider social intercourse are the things that form the basis of the movement. A recognition of the needs of the home and of the child in the home brings with it a clearer recognition of the needs of the community and of the child in the school. "Trust a woman to be able to put her finger on the special reforms necessary to improve her community," writes one secretary, "and trust an organization of women to bring those reforms about." Therefore the more enthusiastic and progressive element are discerning in the institute a medium, not only for the betterment of home life, but for a general social uplift, recognizing what has been done as merely preparing the way for an even wider usefulness in the future.

The much needed social element that the institute introduces in the life of the woman on the farm comes as an inestimable benefit. The widened circle of acquaintance, the increased intimacy, the exchange of ideas, the inspiration and mental refreshment—all are results that flow from the hundreds of small groups of women meeting monthly under these auspices in practically all parts of the Dominion. In this respect the institute, where all find an equal place, occupies a unique position in the community.

Instruction in home economics, both for the young girls and the women of the farm, is supplied in the form of short courses to a greater or less extent in almost all the provinces, either through the extension department of the Provincial College of Agriculture or through the Women's Institutes.

In Quebec, a number of junior clubs have been formed, whose activities include not only home subjects, but gardening, bee-keeping and poultry raising. In Ontario, a disposition to form allied institutes for young girls is also noted.

Never since the days of the earliest pioneer settlement have the women of Canada so fully recognized their duty and realized their opportunity as during the present war. Their response to the call of the country, the Empire and humanity is beyond praise, and in that response the organized women of the farm have joined in a manner that is particularly notable for its devotion and self-sacrifice.

SUMMARY OF WOMEN'S WORK EXPENDITURE.

1912-15.

Ontario.. . . .	\$ 11,938
British Columbia.. . . .	5,079
Manitoba.. . . .	6,346
Nova Scotia.. . . .	3,788
New Brunswick.. . . .	8,685
Prince Edward Island.. . . .	2,556
Total.. . . .	<u>\$ 39,392</u>

In Quebec, Manitoba and Saskatchewan work in connection with organizations for women forms part of Agricultural College extension departments, and the cost is not included in the above statement. In Alberta Women's Work is not assisted by the subsidy.



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## MEMBERSHIP.

	1913.	1914.	1915.
Ontario.. . . . .	22,042	23,698	28,927
Quebec.. . . . .	252	303	608
Manitoba.. . . . .	1,200	1,675	—
Saskatchewan.. . . . .	.....	.....	5,100
Alberta.. . . . .	1,200	1,400	—
British Columbia.. . . . .	1,905	2,802	2,682
Nova Scotia.. . . . .	384	1,041	1,351
New Brunswick.. . . . .	856	1,900	2,560
Prince Edward Island.. . . . .	400	750	690

## DISTRICT REPRESENTATIVES.

Ontario: The district representative movement has had its greatest development in Ontario, where, nine years ago, six graduates of the Agricultural College were located in as many counties to act as resident agents of the Provincial Department of Agriculture. At the present time there are forty-one permanent county offices, besides a number of offices in Upper Ontario, which are open during the summer months. Most of the representatives have been given assistants and office help, and in many cases they have been provided with motor cars at the expense of the municipality to facilitate their work. The total working staff is now 135 persons.

In addition to salaries, it costs upwards of \$3,000 a year for the maintenance of each office. To meet the necessary outlay, the province contributes \$80,000 annually, and the expenditure of Federal aid, since 1912 to the end of the fiscal year, was \$202,097.

The object of the movement is that of college extension in general, namely, to bring the results of investigation home to the farmer, and to give him individual and personal help in solving agricultural problems. It has been found, however, that a resident agent has many and varied opportunities for usefulness. Short courses, school fairs, junior farmers' improvement associations, acre-profit competitions, and farmers' organization come within his sphere of operation.

At the present time the leading features of the work of the representative are the short courses and the school fairs. Short courses of from four to six weeks' duration are held early in each year, and deal with animal husbandry, crops, soils, drainage, fruit-growing, weeds and insects, seed selection, poultry raising, dairying, veterinary science, and arithmetic and book-keeping, with special reference to the farm. In 1915 1,115 young men attended these courses. The acre-profit and similar competitions, and junior farmers' organizations are an outcome of the courses. The former have aroused great interest, 600 young men, representing 43 counties, having, in 1915, entered the acre-profit competitions alone.

The school-fair movement in Ontario has grown to such proportions as to require much time and attention on the part of the representatives, who have the general direction of the movement, assisted by the school teachers. In 1914 148 school fairs were held, involving the inspection of 23,872 home plots, and the distribution, besides seed, of 4,074 settings of eggs. In 1915 the number of fairs increased to 234. Further figures for 1915 are: Number of schools, 2,291; number of pupils, 48,386; number of settings of eggs, 6,868; number of children attending fairs, 72,860; adults, 84,406; number of entries, 116,236. For the best kept plots prizes are awarded, which involves at least two inspections.

The representatives are also active in many other undertakings, including variety tests, alfalfa demonstration plots, fertilizer tests, the promotion of seed-producing centres, farmers' clubs, breeders' clubs, and similar organizations, besides carrying on work in connection with soil surveys, drainage and other demonstrations, organizing meetings, and acting generally as leaders in the agricultural community.



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Quebec: Quebec has located fourteen district representatives who perform somewhat similar functions to those in Ontario. Six "agronomists" with their assistants have been appointed by the Department of Agriculture, while eight "demonstrators" from the Macdonald Agricultural College have been located in English-speaking communities. It is reported that the work is beginning to make itself felt in the agriculture of the province.

Manitoba: A movement somewhat similar in conception was inaugurated in Manitoba in the spring of 1915. Five graduates of the Agricultural College were each assigned a district during the summer months. These men will act as agents of the department in extending the knowledge of good farming methods, and as inspectors under the Noxious Weeds Act.

Saskatchewan: In Saskatchewan also a movement has been made looking to the ultimate appointment of district representatives. The province has been divided into five districts, and a field agent appointed to each. Their duties include the supervision of the 45 agricultural secretaries and 730 weed inspectors appointed by the municipalities. The agricultural secretaries act as demonstrators in field husbandry and weed control. In the spring of the present year, four regular representatives were appointed.

Alberta: In Alberta the members of the staff of the schools of agriculture hold meetings and advise with the farmers in the territory adjacent to the schools, and thus perform a work similar, in some degree, to that of district representatives. Their salaries are charged to the grant.

British Columbia: A resident agriculturist has been stationed in the northern part of the province on the line of the Grand Trunk Pacific, to represent the department and to advise settlers now locating there, on matters relating to mixed farming.

Nova Scotia: Two appointments have been made, one for Cape Breton and one for Antigonish, and the areas under their supervision are greater in extent than where the county is made the unit of representation.

Prince Edward Island: In Prince Edward Island, a representative has been appointed in each of the three counties of the province.

SUMMARY OF EXPENDITURE FOR DISTRICT REPRESENTATIVES, 1912-15.

Ontario.. . . .	\$ 202,097
* Quebec.. . . .	13,407
British Columbia.. . . .	—
Nova Scotia.. . . .	—
Prince Edward Island.. . . .	6,166

\*Not including Macdonald demonstrators. The expenditure in Saskatchewan for field agents is included with "Demonstrations."

BOYS' AND GIRLS' CLUBS.

This movement had its origin in the United States, from whence it has spread in modified forms to different parts of Canada. Its purpose is to organize boys and girls of school age into clubs for contests in the growing of crops, in gardening, canning, bread-making, pig-feeding, calf-raising, poultry-growing and egg-laying. The work in the United States has been greatly facilitated through high and consolidated schools where agriculture and home economics are taught. In many instances it has reached a high stage of development. In the state of Minnesota alone, there are 700 regularly



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organized clubs, with officers, constitutions and plans of work for carrying on some special club project, generous financial aid being given by State and county fair organizations, business men's associations, bankers, and others interested.

The objects of the movement as laid down by a leader in the work are:—

1. To interest boys and girls in farm life, and help them to realize the wonderful possibilities of the farm;
2. To teach them better methods in agriculture and home-making;
3. To connect the school and the home;
4. To establish thrift, industry and business habits;
5. To develop leadership in country life.

The great possibilities of the movement are self-evident. It increases the quantity and quality of production. The average yield of corn per acre in several states has been nearly doubled since the advent of these clubs, while in Canada it is shown that the improved seed distributed in this way soon becomes a source of farm seed supply, to say nothing of the improvement of poultry, where settings of eggs of a bred-to-lay strain are freely distributed, as in Ontario. Results of this kind help to make it apparent to boys and girls that farming is a paying business when knowledge and skill are brought to bear, that country life is full of interest, and that life at its best may be lived in the country home.

Other beneficial results of the work of the clubs are that it stimulates interest in ordinary school subjects, and opens the way for teaching agriculture and home economics.

In Ontario the forces through which work of this kind is carried on are the district representatives of the Agricultural Department and the rural school. During the past season, in that province, forty-five thousand boys and girls cultivated home plots of improved grains or potatoes, or raised chickens from the settings of eggs supplied, all these products being exhibited at a special school fair, in the holding of which the schools of a district combined. Extracts from the reports of district representatives in regard to the work are published in the Appendix, and make interesting reading. In the more advanced stages, such as pig-feeding, calf-raising and acre profit competitions, where reports in the work are called for, the junior farmers' associations of the province become operative.

In Manitoba, a splendid start has been made along similar lines, and this year there are being added competitions in bread-making, sewing, canning and preserving for girls and projects in farm mechanics for boys. Through the distribution of seed corn, a marked impetus has been given to fodder-corn growing. In 1914, 2,500 children from 100 schools exhibited at school fairs. Increased school attendance, renewed interest, and the establishing of a link between the school and the home are some of the results attributed to the work in that province, while the opinion is general that no movement has had a greater effect in arousing interest in better farming. The expenditure to date is \$3,565.

In Quebec, New Brunswick and Nova Scotia, a beginning has been made by the distribution of seeds, plants or eggs, while in British Columbia junior competitions in potato-growing have been conducted under the auspices of the Farmers' Institutes. Arrangements are now being made in that province for club organization within the institute, and other crops will likely be taken up. The expenditure to date in British Columbia is \$1,115. In Ontario and Quebec the cost of the work is met from the district representatives' appropriation, and in Nova Scotia and New Brunswick it is included with the cost of agricultural instruction in rural schools.



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## SHORT COURSES.

Ontario: Short courses in Ontario are held under several different auspices, namely, the Ontario Agricultural College and Macdonald Institute, the Department of Education, the District Representatives, the Farmers' and Women's Institutes; and the fairs and exhibitions, and vegetable specialists' branches of the department.

The Ontario Agricultural College each year holds short courses at that institution dealing with the leading phases of agriculture and horticulture, while the Macdonald Institute holds three short courses in domestic science. The cost of this work is provided for in the provincial appropriations.

The courses for young men held throughout the country by the district representatives have already been described under that head, and the outlay involved cannot be separately stated. These courses form a splendid recruiting ground for the Provincial Agricultural College, and, as they deal with young men in the formative period of life, they must be regarded as one of the most important agencies for the diffusion of agricultural instruction. Winners of acre-profit and live stock competitions conducted by the representatives, are given a short course free of expense at the Agricultural College.

Through the medium of the Farmers' Institutes, short courses of less than four days' duration, intended chiefly for the older members of the community, are held each year throughout the province, dealing chiefly with animal husbandry, illustrated by specimens of live stock from adjacent farms. In 1914-15, 77 such courses were held, with a total attendance of 23,000.

Since aid was received from the Federal grant, short courses in home economics for women and girls have been introduced through the Women's Institutes. There were held during the past year 39 such courses, of from two to four weeks' duration. They aim to give a systematic course in house-keeping, including food values and cooking, home nursing, etc.

The Fairs Branch of the Provincial Department sends out 300 judges each year to act as expert judges at fairs; and, to equip them properly and standardize their work, a short course is provided at the College at Guelph and at the Central Experimental Farm, Ottawa. Under the vegetable specialist of the department short courses were provided for vegetable growers at five points in the province. Under the Department of Education short courses are held at the Agricultural College for teachers who desire to qualify for teaching school gardening, nature study and agricultural science. All these courses, except the regular college short courses, are charged against the subsidy.

Quebec: In the province of Quebec, the Macdonald College holds short courses each year at the institution, dealing with agriculture and home economics. Courses are held also at outside points by members of the staff, the number of the latter in 1914-15 being 23, with an attendance of 3,351 persons.

At the Oka Agricultural Institute and the School of Agriculture at Ste. Anne de la Pocatière, short courses are held in general agriculture. A short course for farmers' sons was conducted by the District Agronomist at Henryville last year. The accounts do not show the cost of this branch of work in Quebec, it being met out of the allotment to agricultural colleges and schools.

In Manitoba, short courses are one of the forms of extension work carried on by the Provincial College of Agriculture. The Federal subsidy has not been called upon to assist the Manitoba Agricultural College in the work, but it is interesting to note that the short courses presented by that institution covered such subjects as gas and steam traction engineering, highway construction, creamery work, poultry-keeping. A short course for weed inspectors is held each year at the college for the purpose of qualifying these officers for the performance of their duties.



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Under the auspices of the Home Economics Societies, which are given Federal assistance, two-day courses in house-keeping and three weeks' courses in dressmaking and millinery are conducted. As the work of organizing these societies is rapidly progressing, the number of courses for women is likely to be greatly extended. The attendance and keen interest manifested in all the above courses indicates a high appreciation of the work being carried on.

Saskatchewan: The Saskatchewan College of Agriculture holds a three weeks' course in farm engineering, a three weeks' course in home economics, and a farmers' general course of five days' duration. At the conventions for home-makers, agricultural societies and dairymen, lecture and demonstration courses are also held. At outside points (17 in 1914-15) the staff conduct lecture and demonstration courses in tillage, crops and animal husbandry and provide instruction for young men from the farms who attend the Regina and Moose Jaw Colleges, as well as for the teachers at the Regina and Saskatoon Normal Schools. At the Convention of the Saskatchewan Veterinary Association, lectures of instruction are given in veterinary science, for which the association receives an annual grant of \$500 from the subsidy.

Nova Scotia: In Nova Scotia the Agricultural College at Truro conducts a two weeks' course in agriculture at that institution, besides holding courses at five outside points, at which buildings for the purpose have been provided partly from the Federal funds. Short vacation courses for the training of teachers in rural science are held each summer at the Agricultural College.

New Brunswick: At the Woodstock and Sussex Agricultural Schools in New Brunswick, and also at Newcastle, short courses in general agriculture are held which are successful in meeting, in part at least, the needs of the farming community. A summer school of rural science for teachers is held at Woodstock. Household science courses held under the auspices of the Women's Institutes, and charged to that appropriation, are held at Woodstock, Sussex and Chatham.

Prince Edward Island: The short courses comprised a course in household economics at Prince of Wales College, a course for teachers and inspectors in nature study and school gardening, teachers' summer school course, and courses for farmers in fruit-packing, cereal and animal husbandry and milk-testing.

British Columbia: In British Columbia in 1913-14 short courses in cooking and dressmaking were held under the auspices of the Women's Institutes, and a series of demonstration lectures in general farming and horticulture given through the Farmers' Institutes. In the following year a summer school in elementary agriculture and domestic science was held in Victoria to prepare teachers for giving instructions in these subjects. In 1914, 26 classes in pruning and 37 classes in grading and packing apples were held, and in that year 75 per cent of the British Columbia crop is estimated to have been packed by these schools.

Alberta: In Alberta summer schools for the training of teachers in agriculture, nature study, school gardening and household science have been held at Edmonton by the Department of Education during the past three years, instruction being given by the staff of the College of Agriculture. The work does not receive direct Federal aid. The attendance was as follows: 1913, 78 public school teachers; 1914, 155 teachers; and in 1915, 327 public school teachers and inspectors and 44 high school teachers.

In 1914, a special professional course was held at the Olds Agricultural School for members of the staffs of the Schools of Agriculture. The work of organization and instruction was assigned to the Director of Technical Education, Dr. James C. Miller. The principals of the schools and Normal School specialists gave series of lectures. Twelve were in attendance. This course, if continued, will doubtless prove of great advantage to the specialists and the schools.



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SUMMARY OF SHORT COURSE EXPENDITURE, 1912-15.

Ontario.. . . . .	\$ 25,874
Nova Scotia.. . . . .	2,661
New Brunswick.. . . . .	5,873
Prince Edward Island.. . . . .	5,776
Saskatchewan, weed control and veterinary.. . . . .	3,500
British Columbia.. . . . .	4,392
Total.. . . . .	<u>\$ 48,076</u>

Note: The amount expended by district representatives in Ontario in connection with short courses is not included.

In Ontario, Manitoba and British Columbia short courses in domestic science are included under Women's Work. In Quebec, Saskatchewan and Alberta, short courses are included in college and school extension, and the specific expenditure cannot be given.

The expenditure on special courses to qualify teachers in agriculture and domestic science is included under Agriculture in Schools.

INSTRUCTION BY DEMONSTRATION.

The movement to reach all the farmers by actual demonstration is becoming the dominant note in instruction work at the present time in the United States. This form of instruction is specifically encouraged by the Smith-Lever Act. It contemplates putting into effect through demonstration by special agent on individual farms the teaching of modern agriculture in a more convincing way than can be accomplished through lectures, the distribution of reading matter, or similar methods. A review appears in the Appendix of what is being accomplished in the Southern States under this system, and also of the organization available for carrying into effect the provisions of the Smith-Lever Act in the state of Oklahoma.

Instruction Trains: Lectures and demonstrations by means of instruction trains is one of the most striking methods of agricultural college extension. Hundreds of young people in the remoter districts, who never had a chance to see the inside of an agricultural college, and who never received any technical or scientific training in their business, are in this way brought into contact with the work being carried on in these institutions and with the men who are engaged in it. The incentive thus given to learn about improved systems and methods is a valuable outcome.

"Better Farming Specials" traversed three of the provinces in 1914—Manitoba (two), Saskatchewan, and New Brunswick. In Quebec all preparations had been made, but the plans were cancelled at the request of the railway owing to the transportation of troops. The funds for fitting out and running these trains were provided under the Act. In Quebec, Manitoba, and New Brunswick in 1913 and 1914, and in Alberta in 1913, similar trains were operated.

The railway companies facilitated the work in every possible way, and their assistance should receive recognition. In the West the trains, comprising an engine and twelve cars, with operating crews, were furnished free of charge, the Government paying at the rate of one dollar per meal for each member of the lecturing staff.

The material for the lecture work carried in one or other of the trains dealt with almost the entire range of agricultural instruction, embracing live stock, poultry, dairying, equipment, beekeeping, seed selection, plant diseases, drainage, weed eradication, home economics, and farm mechanics.

On one train a carload of dairy cattle was carried; on another a car each of hogs and sheep, and talks were given on their economic feeding and management. The possibilities of improvement through the continued use of pure bred sires were demonstrated by pens of scrubby range ewes and the products of the first and second crosses in comparison. These demonstrations from living models were particularly interesting to the public.



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Among the new features were motion pictures, in a darkened coach, dealing with egg and seed germination and plant and insect life. The killing and preparation of poultry for market was handled on one train, and others were equipped with information bureaus, where consultation on farm problems was invited and printed matter distributed. In the women's car the demonstrations of household conveniences were very popular. The attendance in Manitoba for one train alone was 34,000, while the Saskatchewan train attracted no less than 36,000 persons.

Ontario: In conducting farm demonstrations in Ontario the district representative largely assists, working to this end in co-operation with the Agricultural College and the department. He arranges for demonstration plots of corn and alfalfa on the individual farms, assists with soil surveys and drainage plots, etc., and organizes the public meetings connected therewith. To demonstrate the benefits of drainage in sections where the same are not generally recognized, 17 plots are being conducted. The first report on those started previous to 1914 shows an average increase of nearly 15 per cent in crop values. A traction ditcher has been operated by the department for several years. In 1914 1,673 miles of drain were laid and 23 public demonstrations held in connection therewith. The work on soils contemplates illustrating through plots, located on depleted land, the methods to be followed in restoring fertility.

In connection with fruit growing, the district representatives conduct demonstrations in pruning, spraying and cultural methods in privately-owned orchards, and undertake certain experiments in orchards leased for a term of years. Packing demonstrations and horticultural demonstration bureaus are conducted at the leading fairs, and instruction in fruit packing is given at the horticultural courses at the Agricultural College.

Demonstrations and lectures in live stock, poultry, beekeeping, and horticultural work are carried on as part of the extension work of the Agricultural College, through institutes and other gatherings. In this connection several additions to the college staff have been made. Demonstrations in the treatment of diseases and pests affecting vegetables are conducted through the department. The charges against the subsidy since 1912 amount to \$44,900, exclusive of disbursements by district representatives.

Quebec: Two ditching machines were purchased in 1912, and an active campaign entered upon to demonstrate underdrainage. Plans were supplied, and the Government undertook to remit to farmers who drained ten acres of land half the cost of the work. Nearly 56,000 feet of drain were excavated in 1914-15.

Thirty-five poultry plants have been established throughout the province. The majority of these are fattening stations, which have, for the most part, been operated on a self-sustaining basis, but there are a number, under the supervision of the district representatives or specialists, where housing and marketing are made the leading features. At the six demonstration houses established by Macdonald College, breeding flocks are maintained and eggs distributed for school-fair and other work.

In 1913 and 1914 demonstration trains were operated, the Agricultural College and the Schools of Agriculture rendering assistance.

Demonstration plots in alfalfa and clover have been located in different sections of the province; seed has been distributed to farmers through the Experimental Union, and investigation and experiment carried on at the College and Schools of Agriculture. It has been found that the hardy varieties of alfalfa do well in the district of Montreal, and in a few of the eastern counties. In the northeastern part of the province, results have hitherto been unsatisfactory.

In connection with dairying, instruction is given to operators and patrons of cheese and butter factories through the department's staff of inspectors, as is also the case in regard to beekeeping. Demonstrations were given in the culture and curing of tobacco, and for the latter a special barn has been provided. To demonstrate bacon curing a Danish expert is regularly employed, and a co-operative abbatoir has been



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built with funds supplied by the Act. A school is now being operated in connection with the plant at which men are being equipped for managing co-operative bacon plants now being formed. The province, being situated in the centre of the maple-growing zone, produces a large quantity of sugar and syrup. In order to develop this natural industry and to improve the quality of the products, three maple-sugar making schools have been established, where instruction is given in the best methods of making and marketing. The charge to date of equipping and maintaining these schools is \$6,337.

To develop a home supply of clover seed, two demonstration hullers were sent out by the department. Hundreds of bushels of good clover seed were taken from common hay without any special preparation. The farmers who witnessed the demonstrations began at once to grow clover for seed. Prizes were given, and this year thousands of pounds are offered for sale. As a result of this work the Quebec Seed Growers Co-operative Association at Ste. Rosalie, for dealing in all classes of registered seed, has been formed, and in addition, many small societies have been organized to handle the clover seed of their members.

In these departments of work the total charge against the subsidy since 1912 amounted to \$169,990 at the end of the fiscal year.

Fruit growing has been greatly stimulated in Quebec by Federal aid, and the province will, it is anticipated, eventually become one of the leading fruit centres of Canada. Forty-five orchards, comprising 118 acres are being operated by the provincial fruits branch to demonstrate approved methods of culture. The department supplies materials and equipment, and pays for labour and supervision. In the eastern part of the province, where the climate is more severe, tests of hardy varieties are being conducted at four points. The Macdonald Agricultural College has also planted apple orchards at two points, which are under the management of the college demonstrators.

In 1914, an expert was employed to demonstrate the manufacture of preserves at the French Schools of Agriculture. The expenditure on fruit work since aid was first extended amounts to \$58,370. This includes not only the expenditure on orchards, demonstrations and lectures (exclusive of Macdonald College), but also for bulletins, exhibition work, and the salaries of the officers of the fruits branch, including the Provincial Entomologist.

Manitoba: In this province fifteen farms, each of about 40 acres in extent, are being established for the purpose of demonstrating the results obtainable from scientific farming. Fourteen of these farms are leased for a period of twelve years, but the farm at Killarney, intended to demonstrate fruit growing, was purchased. The farms are operated by their owners, the department supplying labour, materials, fencing, equipment, and, when necessary, special seed, besides directing the work. In connection with the farms, 20 demonstration plots of alfalfa have been established. The charges against the grant in the past three years in connection with the farms amounted to \$16,155.

Through the extension department of the Manitoba Agricultural College, demonstration and instruction for farmers is provided, independent of the work done by the demonstration trains, which were operated in 1913, 1914 and 1915. The poultry department conducts demonstrations in the feeding, killing and dressing of poultry, and holds competitions for which premiums are awarded. Instruction is given in beekeeping through the Provincial Apiarist, who is located at that institution, and members of the college staff lecture and demonstrate in field and animal husbandry. Instruction is given by the department among the foreign-born population in outlying districts in dairying methods and in vegetable growing. For the above work, including an investigation in underdrainage conducted at the college, \$20,722 has been charged against the grant since 1912.



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Saskatchewan: Travelling instructors in livestock, dairying and field husbandry, operated in Saskatchewan to carry knowledge of up-to-date methods to the farmers. Poultry fattening and marketing is demonstrated at the Government-operated creameries (over 3,000 patrons in 1914), by an instructor from the College of Agriculture. Cow-testing demonstrations and competitions are conducted through the same channel by the dairy branch. This branch also operates demonstration dairy cars apart from the regular "Better Farming Specials." In the winter of 1914-15, meetings were held at 39 places by this means. Field representatives demonstrate better methods of field husbandry and weed control. Since 1912, \$59,555 has been charged to the grant to cover the cost of lectures and demonstrations, competitions, better farming trains and instruction work generally.

The great progress of Saskatchewan as a dairy province during the past few years is due, not only to education in methods of production, but also to a recognition of the fact that the purely commercial side of the business is of equal importance. Large sums are advanced annually by the province to facilitate the financing of the business.

Alberta: The Provincial Demonstration Farms and Farm Schools form the centre from which the work of demonstration is carried on in connection with the live stock and dairy industries. In 1912-13 and 1913-14 a portion of the grant (\$17,690) was employed for the purchase of beef and dairy cattle for distribution among the seven farms, with the result that the surrounding districts are becoming centres for the breeds represented at the respective farms—Holsteins, Ayrshires or Shorthorns, as the case may be.

Through the medium of the schools, the dairy branch of the Provincial Department has performed a large amount of work in the testing of dairy herds. Live stock is given as prizes, and the herds, not only of adjacent farms, but also of all ex-students, are eligible. Great interest has been shown in the work, the cost of which, including the salary of the Superintendent of Dairy Instruction and his assistants, is borne entirely by the grant. For all forms of demonstration and the competitions connected therewith; also purchase of cattle, and the running of a "better farming" train in 1913, the sum of \$32,160 has been charged to the subsidy.

British Columbia: British Columbia regards demonstration work as one of the best means of educating the farmer in modern agricultural methods, and devotes a large portion of the Federal grant to work that comes within that general classification. Conditions of soil and climate vary exceedingly, and for this reason small demonstration plots, rather than experimental farms, are being emphasized. The department leases the land under a nominal rental and pays for the work performed. The object is not only to demonstrate but to experiment.

In connection with fruit growing, work has been proceeding for fifteen years and much information has been collected. Two systems are pursued (1) demonstrations in old orchards, (2) demonstration orchards leased for a period of five years and operated under government supervision. Of the latter there are sixteen, each of about five acres in extent. All orchards are used to illustrate to gatherings of fruit growers methods of spraying, pruning, fertilization and culture. A number of demonstration plots for small fruits and vegetables have been organized both in the north and south to demonstrate cultural methods and to test varieties, and investigations are being undertaken in connection with storage and transportation. Several instructors have been added to the staff to assist the work.

Ten alfalfa plots and eight investigation plots are being operated, and twelve more are being made ready in different parts of the province. Six of these will be located in the northern part of the province, where there is great need of instructional work among the new settlers.



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Some twenty-five demonstration poultry plants have been established and supplied with suitable stock; egg laying competitions are organized, and the educational work carried on is doing much to encourage the industry. Bee-keeping is allied to fruit growing. No foul brood exists in the province, but the management of bees differs somewhat under the varying climatic conditions, and instruction is given to the apiarist by personal visit.

Co-operative tests and competitions in the growing of alfalfa, corn and other crops are carried out through the medium of the Farmers' Institutes, the experimenters being required to report on results. One ton of Grimm alfalfa at 10 cents per pound, half a ton of seed corn (free) and two thousand bushels of registered Banner oats, at cost, were last year distributed in this way, the department paying the freight. Hundreds of co-operative tests resulted. Many sections of the province are eminently suited to alfalfa, and it is hoped that seed distribution and demonstration plots will result in the widespread cultivation of this valuable crop.

Two small demonstration outfits were purchased and a campaign begun in the construction and use of silos. In the west coast districts and on Vancouver Island, the use of clover and grasses as sweet silage is being advocated.

Through the Farmers' Institutes—95 in number, with a membership of over 8,000—a large amount of lecture and demonstration work is performed in regard to horticulture, field crops, weed suppression, co-operative marketing, and the purchase of supplies. Travelling instructors visit the dairy farms and creameries of the province and interest owners in the work of recording the milk production of their herds. Associations are organized, and the testing work is carried on by competent men sent out by the department and provided with the necessary equipment. Since 1912, \$63,143 has been expended from the federal grant in these activities.

Nova Scotia: The demonstration work in connection with apple culture is undertaken (1) in connection with provincial model orchards, 36 in number, and (2) the renovation of neglected orchards. For this latter class of work, private orchards located in various parts of the province are employed to demonstrate the results of approved methods of treatment, this being followed by orchard meetings. The renovation work was financed from the Federal grant.

Nova Scotia demonstrates underdrainage through the operation of two traction ditchers purchased from provincial funds, and one cement tile-making machine purchased from the Federal grant. The College makes free drainage surveys and the ditching work is performed at a reasonable charge. The tile-making demonstrations were undertaken on account of the difficulty in obtaining commercial tile. On account of the value of turnips to the live-stock industry, plots to demonstrate their culture are conducted, and prizes given for results. A number of demonstrations are carried on with ground limestone and fertilizers. In connection with the poultry industry, model poultry houses have been located at numerous points, and an active campaign is being carried on by demonstrations at exhibitions and elsewhere and through egg circles. A large amount of demonstration work is performed through cheese factories and creameries and meetings of patrons. The total expenses charged to the grant under these heads amounted to \$22,168 in the two years.

New Brunswick: Practically the entire field staff of the department—16 in number—assisted by the teachers in the agricultural schools and special instructors, undertake through visits to individual farmers, meetings and lectures, to demonstrate methods in dairying, poultry and animal husbandry, horticulture and bee-keeping. Special attention has been given to the treatment of potato diseases. Demonstrations in underdrainage by means of a traction ditcher, purchased by means of the grant, have been held for two years. This year demonstrations in the crushing of limestone rock have been added, meetings of farmers being held in connection with both these undertakings.



To promote apple-orcharding, established orchards are taken over for a term of years and operated on a commercial basis to demonstrate processes of renovation and proper cultural methods, the cost being charged to provincial appropriations. The total expenditure charged against the grant during the two years for work of this nature, including instruction trains, amounted to \$37,649.

Prince Edward Island: Demonstrations in sheep-dipping and in poultry raising, in the care of orchards, and in the grading and packing of apples, have been widely held during the past two years. One of the results is seen in connection with the organization of egg circles throughout the province. The amount charged against the Federal grant since 1912 for work of this kind amounts to \$3,643.

SUMMARY OF EXPENDITURE for Demonstration and Instruction, 1912-15.

Ontario.. . . .	\$ 44,900
Quebec.. . . .	228,360
Manitoba.. . . .	50,538
Saskatchewan.. . . .	59,555
Alberta.. . . .	32,160
British Columbia.. . . .	63,143
Nova Scotia.. . . .	22,168
New Brunswick.. . . .	41,048
Prince Edward Island.. . . .	3,643
Total.. . . .	<u>\$ 545,515</u>



## ONTARIO.

The subsidy provided under the Agricultural Instruction Act in 1914-15 and its allotment:—

District Representatives.. . . . .	\$ 100,000 00
O. A. C. Short Courses, travelling and living expenses of winners of acre profit and live stock competitions.. . . . .	1,500 00
To encourage agriculture in the public and high schools, to be available for grants and for travelling and living expenses of teachers and others in attendance at short courses or other educational gatherings, in addition to services, expenses and equipment, and to be paid out on recommendation of the Department of Education.. . . . .	13,000 00
Educational work in connection with marketing of farm products, including organization of co-operative societies, collection, printing and distribution of information on current prices and systems of marketing.. . . . .	1,000 00
Building at Ontario Agricultural College, including completion of buildings under construction.. . . . .	72,000 00
Stock and seed judging short courses and institute lecture work..	7,500 00
Women's Institute work, including courses in cooking, sewing, etc.	7,500 00
Short courses for fall fair and field crop judges, including travelling and living expenses.. . . . .	1,500 00
Drainage work.. . . . .	4,000 00
Demonstrations and instruction in vegetable growing.. . . . .	2,500 00
Demonstration work on soils.. . . . .	5,000 00
Demonstration work in spraying, pruning and packing of fruit..	7,500 00
Demonstrations and instruction in live stock and poultry.. . . .	4,500 00
Work in bee-keeping.. . . . .	1,000 00
Lectures on horticulture.. . . . .	500 00
Miscellaneous.. . . . .	1,868 83
Total.. . . . .	\$ 230,868 83

### OUTLINE OF WORK PERFORMED

In the case of Ontario, a line cannot be clearly drawn between the work financed by the province and that for which funds are provided under the Agricultural Instruction Act. Except in a few instances the Federal grant supplements the grants made by the Provincial Legislature. In some provinces the work financed by the Federal subsidy is kept distinct and separate from that regularly carried on, but in Ontario and in most of the other provinces, this is not the case. The exceptions in Ontario are: (1) Educational work in connection with the marketing of farm products, and (2) Demonstrations and instruction in vegetable growing. These are new branches and are financed entirely out of the Federal grant.

### DISTRICT REPRESENTATIVES.

The district representative movement begun in 1907 now embraces practically the whole province, 41 offices having been established in addition to temporary summer offices in the districts of Muskoka and Sudbury. The working staff, including representatives, assistant representatives (of which there are two in some of the larger counties) and office help comprises 135 persons. In many cases, motor cars have been provided out of the county grant. The cost of the work is met out of the Instruction Act subsidy, supplemented by an annual appropriation of about \$80,000 by the province, and by county grants.

The winter short courses in agriculture, and the developments that are an outcome of them, together with the management of school fairs, constitute the most impressive lines of activity.



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Each year brings an added interest in the courses in agriculture. This is indicated by the increase in attendance, and the growing demand for these courses. In 1914, 30 courses were held with an attendance of 555, while the attendance in 1915 was 1,115. The courses last from four to six weeks. Experience has demonstrated the wisdom of holding the courses in a different section of a county each year. In the majority of cases, the town hall or some large room is rented and equipped temporarily for the work.

The following will serve to indicate the varied and practical nature of the courses:—

*Live Stock.*—History and Characteristics of breeds of Horses, Cattle, Sheep and Swine; Records and Pedigrees; Judging—including visits to local Stock Farms; Use of the Score Card; Feeding and Management; Construction of Farm Buildings.

*Farm Crops.*—Varieties of Farm Crops; Methods of Crop Improvement; Seed Selection; Judging Grain; Rotation of Crops; Special Study of Corn and Alfalfa.

*Soils.*—Classification of Soils; Food Requirements; Fertilizers; Methods of Cultivation; Underdrainage.

*Fruit Growing.*—Location of Orchards; Nursery Stock; Planting; Pruning with Practice in Orchards in the vicinity; Spraying; Making up Solutions; Cover Crops; Picking and Marketing Fruit; Box and Barrel Packing; Small Fruits; The Farmer's Garden.

*Weeds and Insects:* Characteristics and Methods of Combating these pests.

*Poultry:* Breed, Management, Housing, Feeding, Hatching and Rearing, Crate Fattening.

*Veterinary Science:* Causes, Symptoms and Treatment of Common Ailments of Farm Animals.

*Dairying:* Types of Milk Cows, Feeding for Milk Production, Milk Records; the Babcock Test.

*Bacteriology:* Study of Bacteria in Soil, Milk, Water, Silage, Bacterial Diseases.

*Special Work:* Farm Arithmetic and Book-keeping, Public Speaking, Debates and Literary Work.

Special attention is always given to those subjects that are considered of the most importance locally. At all times an effort is made to have the courses practical—demonstration is used as much as possible. Where it is desired to teach the characteristics of breeds and types of live-stock, the students are taken to the farms of breeders of pure-bred stock. Likewise, when receiving instruction in pruning fruit trees, the class is taken to a nearby orchard where trees are pruned by experts.

A feature of the courses probably even more important, is the practice of the District Representative taking his class to Toronto, Guelph, or Ottawa, where they have an opportunity of inspecting and judging classes of stock that could not be secured in their own district. In addition, stockyards and abattoirs are visited.

In 1915, a two weeks' course for farmers' daughters was held in several counties at the same time as the men's courses. Household science subjects were taught, including sewing and poultry work.

*Junior Farmers' Associations:* The Junior Farmers' Improvement Associations, with several branches in each county, were organized by the district representatives with a view of keeping in touch with the young men who take the courses, and thus continuing the work begun. The movement promises to become an important factor in moulding the agriculture of the province. Two meetings are held in the representative's office, one in the spring and another in the fall, to discuss plans and results. In addition, monthly local meetings are held.

The activities of this organization include acre profit and hog and calf-feeding competitions, cow recording, experiments with alfalfa and other crops, and variety tests. These undertakings are not confined to the members of the organization, however, but may, in most cases, be engaged in by all who take the short courses.



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In 1914, 198 young men competed in the acre-profit competitions and 85 in the hog-feeding competitions. In 1915 the number taking part in the acre-profit competitions increased to 600 representing 43 counties. Contestants are required to make a report showing conditions and methods. The winners in each county are given a two-weeks' free course in stock and seed judging at the Agricultural College. These contests have aroused more interest than anything of the kind ever undertaken in the province. 25 winners in the 1913 competitions and 68 winners in the 1914 competitions were given short courses at the Agricultural College.

In each county, in 1915, a team of three young men was selected from among the short course men to compete in a contest in judging live-stock and horses at the Guelph or Ottawa Winter Fair. The prizes will consist of trophies, medals and cash.

**The School Fair Movement:** The popularity and extension of the School Fair movement continues, and calls for a great deal of time and attention on the part of both the representatives and teachers. In 1914 there were 148 fairs held in 37 counties, including the children of 1,391 schools. There were 75,602 entries and a total attendance, including children and adults, of 95,310. The number of plots cared for by the children on their home farms and inspected by the district representatives was 23,872. 4,074 settings of eggs of the bred-to-lay strain of Barred Rocks were distributed, in addition to sufficient seed of the very best varieties obtainable to plant the plots.

These fairs, as the name implies, are exclusively for children, and have no connection with the adult organizations. The crops grown and the chickens raised form the chief basis of the exhibits. Instructions accompany the supplies. Two visits from the representative are called for in order that advice and direction may be given. Prizes are given for the best plots. In 1915, 235 school fairs will be held, and in one county alone there are 3,000 plots under supervision.

In addition to training the child in growing crops and in business methods, it is found that the rest of the family become interested and share in the benefits. Many parents save the produce of the plots and soon have sufficient seed of a good strain for their own requirements. The inspections also enable the representatives to make the parents' acquaintance, and to give assistance and advice where needed.

**Other Lines of Work:** Among other lines of work conducted by the representatives the following may be briefly noted:—

1. Variety tests of corn for silage: These tests are being extended to cover practically every county.

2. Alfalfa tests: These were begun three years ago to demonstrate the importance of using hardy strains, and to provide a source of seed supply. In no case was failure reported with the Grimm and the Ontario Variegated strains. For seed production the drill method is proving most satisfactory.

3. Fertilizer tests: These require to be followed up for several years, as results with certain forms of fertilizers are scarcely apparent in the year of application.

4. Promoting seed centres for the production of seed of improved quality under regulation by the Canadian Seed Growers' Association.

5. Promoting the organization of farmers' clubs, breeders' clubs, county boards of agriculture, etc.

6. The compilation of a census of pure-bred stock, and of a breeders' directory.

7. Furthering the movement for forest planting, soil survey, drainage and co-operative undertakings.

8. Conducting orchard demonstrations under the supervision of the Fruits Branch.

SHORT COURSES.

Short courses have become firmly established in Ontario as being one of the most effective means of carrying on agricultural college extension work. The series held







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The work being carried on was dealt with at some length in the report of 1913-14, and has been continued in a manner similar to that therein described for the period covered by this report.

The trained teacher is considered to be the prime necessity for the sound establishment of any permanent scheme of agricultural teaching. To this end the following courses were held at the Ontario Agricultural College in the summer of 1914:—

1. Normal Teachers Class in Elementary Agriculture, between April 20 and June 26. Teachers attended and were awarded certificates in Elementary Agriculture and Horticulture by the Department of Education.

2. Summer School for Public School Teachers, between July 2 and August 7, with an attendance of 64 in the first year's class and 32 in the second year's class. All the teachers completing the two summer courses become eligible for the Elementary certificates in Agriculture and Horticulture, and when they carry out the agricultural work for rural and village schools, obtain special grants from the Department of Education.

3. Summer School for High School Science Teachers, July 2 to August 7. Sixteen teachers attended the first year's class and thirteen the second year's class. The teachers completing the two summer courses successfully are eligible for the Intermediate Certificate in Agriculture and Horticulture awarded by the Department of Education, and obtain special grants when they carry out the prescribed agricultural courses in the High Schools.

4. The First Rural Teachers' Conference, from August 2 to 7. This was attended by about 125 delegates from Teachers' Associations of the province. Two rural teachers represented most of the associations. Their travelling expenses were met out of the appropriations from the Federal funds. At the fall conventions of the associations they reported to their fellow teachers and discussed Ontario's rural problems in their relationship with the schools. In the opinion of the delegates, the chief hindrance to the progress of the work was the lack of informed public opinion. Many delegates have been carrying on successful propaganda through their local press and by addressing Women's Institutes, trustees' meetings, etc.

In 1913, 177 village and rural schools entered for agricultural teaching and 159 qualified for special grants. In 1914, 278 schools were entered. On account of the increased number, the field agents were increased from 6 in 1913 to 8 in 1914. These young men selected from experienced rural teachers attending the Agricultural College, visited all schools entered for the work, assisted the teachers and conferred with trustees and ratepayers. In their endeavours to promote agricultural teaching they visited schools where its introduction seemed likely, and spoke at Women's Institutes and Farmers' Clubs. They also helped in the organization of school fairs, teachers' organizations, taught in the summer model schools and in a few places held summer short courses for pupils in groups of rural schools.

The number of high and continuation schools introducing agriculture increased from 2 in 1913 to 13 in 1914.

CO-OPERATION AND MARKETING.

In January, 1914, the Co-operation and Markets Branch of the department was organized. The work during the year consisted mainly of investigation as to marketing organizations, and other co-operative enterprises, such as creameries and cheese factories, rural telephone companies, etc. Assistance and advice were given where new organizations were being started.

A book-keeping system for associations is being devised and the question of rural credit dealt with. Municipal markets, their value, operation and use, are also receiving attention. Nearly every town in Ontario is equipped with a farmers' open market. The value of these markets in bringing producer and consumer together is undoubted, but they might be made a more effective factor than they are at present.

Considerable work remains to be done in the various fields of activity before definite statements can be made.







SESSIONAL PAPER No. 15c

During 1914, nine more of these plots were installed, and further interesting results may be expected next year. Already these demonstrations are having the effect of encouraging draining, and in one neighbourhood alone two carloads of tile were laid in the fall of 1914 by the farmers themselves.

The work of making surveys and holding demonstrations in ditching and tile laying has been carried on with energy. In 1914, 13,386 acres were surveyed, 1,673 miles of drain laid, and 23 demonstrations held. In addition to the work of the college staff proper, a considerable portion of the time of district representatives is taken up in making surveys, and there is no doubt thousands of acres are drained indirectly as well as directly under this influence. With a system by which money may be borrowed from the Government through township councils for drainage, and with experts to make surveys and draw plans free of charge for the farmer upon request, it must be admitted that every possible encouragement is being given by the Government to drainage.

**Vegetable growing:** A branch devoted to vegetable growing, with a specialist at its head, was organized by the department in April, 1914, and financed with the funds made available by the Act. Mr. S. C. Johnston, B.S.A., is the provincial officer in charge of this work, with headquarters at the department in Toronto.

The market garden industry represents to the province about two million dollars annually, apart from that of growing vegetables for canning purposes. The work carried on included the holding of meetings or short courses, experiments and demonstrations with vegetable diseases and pests, such as celery blight, cabbage-root maggot, onion blight, etc., and the publication of a bulletin on green-house construction and on the vegetable garden.

**Demonstrations in Spraying, Pruning and Fruit Packing:** During the year 1914, twenty-three demonstration orchards in various parts of the province were conducted by the district representatives of the department, under the supervision of the Fruit Branch. These orchards were thoroughly pruned, sprayed and cultivated. The pruning was in most cases done by men specially sent out by the Fruit Branch. The spraying was left almost entirely in the hands of the representative, and the cultivation was done by the owner of the orchards under the direction of the representative. In addition to the demonstration orchards, many pruning demonstrations were held throughout the fruit districts of the province.

In September 1914, pruning experiments, to be continued indefinitely, were started in a Peel County orchard. This experiment is to determine, if possible, in just what months of the year it is best to have the pruning done, and whether the pruning could safely be done in any month of the year. Four full bearing trees—one Spy, one Greening, one Russett, one Baldwin—are to be pruned each month in the year, so that during the year a total of 48 trees in all will be pruned. This experiment carried on for a sufficient number of years to give accurate results should be of very great value.

During 1914, a new phase of orchard demonstration was undertaken in which three orchards of upwards of four acres each were leased outright for a term of years. In these orchards, demonstrations and experiments in pruning, spraying, cultivation, fertilization, marketing, etc., are to be carried on for a sufficient number of years to insure a fairly accurate result. Various spray materials, clean cultivation with cover crops vs. sod-culture, and different fertilizers will be thoroughly tested out on a commercial scale. The harvesting and marketing of the fruit will also be done by the Fruit Branch.

Several fruit-packing schools were held at the Agricultural College during the short course in horticulture. Packing demonstrations and a horticultural information bureau were conducted at several of the leading fall fairs.

**Work in Bee-keeping:** The department in 1914 spent \$9,250 in the interests of bee-keeping, one thousand dollars of which is taken from the Federal grant. This



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money was appropriated as follows: For the salary of the Provincial Apiarist and maintenance of the Apicultural Department at the Ontario Agricultural College, \$3,550; for general apiculture work in the province including apiary inspection and demonstration, \$4,500; to conduct information bureaus on bee-keeping at fall fairs, \$500; for the Ontario Bee-keepers' Association, \$700.

It is the duty of the Provincial Apiarist to supervise the apiary inspection and demonstration work, to give instruction in bee-keeping at the Ontario Agricultural College, to act as secretary of the Ontario Bee-keepers' Association, and to promote the interests of the bee-keeping industry in every way possible. In 1914, 55 demonstrations were held with an average attendance of 34 at each.

#### DEMONSTRATION WORK.

Soil demonstrations: With the assistance afforded by the subsidy, four demonstrators were added to the staff of the chemistry department at the Ontario Agricultural College for soil demonstration work, and two for drainage work. Hitherto the work in connection with soil demonstrations has been largely of a preparatory nature with a view to making soil surveys, and conducting experiments on demonstration plots.

Demonstrations on acid soils, using the fine screenings and dust from rock crushers in place of burned lime, were conducted at a number of points in the province through the district representatives. The interest that these experiments aroused in the subject led to the springing up of at least four plants for the preparation of ground limestone, or carbonate of lime. This is now being offered in sacks for three dollars per ton, f.o.b., at point of shipment, as against the customary price of ten or twelve dollars. Experiments in Europe and in the United States have demonstrated that this form of lime gives better results than the more active freshly burned lime.

Arrangements were made to conduct demonstration plots to determine the production possibilities of sandy soils. One plot of two and a half acres was located at Walsh, in Norfolk County, which is the centre of one of several large areas of sandy soil found in the province. The study and analysis of swamp and sandy soils was continued.

Poultry demonstrations: The assistance given by the grant permitted the appointment of an assistant in poultry husbandry at the college, and aided in financing lectures and demonstrations in poultry-keeping at institutes, poultry gatherings, and at the short courses conducted by district representatives; also in the production of pedigreed male birds for local poultry breeding stations.

Horticultural work: Two assistants, H. S. Fry and G. J. Culham, were appointed in the horticultural department of the college under the Act. The former, besides assisting in lecture work, is engaged in plant breeding experiments. The latter organized eight co-operative experiments in summer pruning and two in top grafting. Winter injury to fruit trees was investigated, as were the conditions and possibilities of fruit growing in the northern districts. Considerable laboratory work was done and assistance given at fruit meetings and institutes.



SESSIONAL PAPER No. 15c

SUMMARY STATEMENT OF EXPENDITURE UNDER THE FEDERAL SUBSIDIES OF 1913-14 AND 1914-15, TO MARCH 31, 1915.

Grant, 1913-14..	\$195,733 32
“ 1914-15..	230,868 83

Section No.	Classification.	Grants 1913-14 1914-15.	Balance from Agr. Aid Act Nov. 1, 1912.	Total.	Expended to March 31, 1915.	Balance Unexpended March 31, 1915.
		\$ cts.	\$ cts.	\$ cts.	\$ cts.	\$ cts.
1	District Representatives.....	180,000 00	291 93	180,291 93	179,889 07	402 86
2	O. A. C. Short Courses.....	3,000 00		3,000 00	2,236 49	763 51
3	Agriculture in Public and High Schools.....	23,000 00	10,000 00	33,000 00	21,045 33	11,954 67
4	Marketing of Farm Products.....	6,500 00		6,500 00	5,220 75	1,279 25
5	Buildings at Ontario Agricultural College.....	128,500 00	38,714 50	167,214 50	146,610 02	20,604 48
6	Stock and Seed Judging Short Courses and Institute Work.....	15,000 00		15,000 00	11,381 34	3,618 66
7	Women's Institutes.....	14,000 00	2,872 49	16,872 49	9,065 62	7,806 87
8	Short Courses for Fall Fair and Field Crop Judges.....	6,640 00		6,640 00	5,930 85	709 15
9	Drainage Work.....	9,000 00	2,311 05	11,311 05	11,386 98	
10	Demonstrations and instruction in vegetable growing.....	5,000 00		5,000 00	4,161 72	838 28
11	Demonstration work on soils.....	7,500 00		7,500 00	5,854 33	1,645 67
12	Demonstration and instruction in live stock and poultry.....	8,500 00		8,500 00	5,402 20	3,097 80
13	Demonstration work in spraying, pruning and packing of fruits.....	10,500 00	965 31	11,465 31	8,115 79	3,349 52
14	Work in Bee-keeping.....	2,360 00		2,360 00	2,051 98	308 02
15	Lectures on Horticulture.....	1,000 00		1,000 00	566 55	433 45
16	Miscellaneous.....	6,102 15	1,662 27	7,764 42	2,968 45	4,795 97
	Totals.....	426,602 15	56,817 55	483,419 70	421,887 47	61,608 16

Section 9:—Over-expended balance, \$75.93.



DETAILS OF EXPENDITURE OF SUBSIDIES OF 1913-14 AND 1914-15.

No. 1.—DISTRICT REPRESENTATIVES.

Grant, 1913-14.. . . . .	\$ 80,000 00	
“ 1914-15.. . . . .	100,000 00	
Balance from Agricultural Aid Act.. . . .	291 93	
Expended, Nov. 1, 1912 to Mar. 31, 1915.. . . .		\$ 179,889 07
Balance unexpended March 31, 1915.. . . .		402 86
	<u>\$ 180,291 93</u>	<u>\$ 180,291 93</u>

Under the Agricultural Aid Act of 1912-13 there was provided the sum of \$22,500 for this work. On November 1, 1912, there was an unexpended balance from this grant of \$291.93, which was added to the grants under the Agricultural Instruction Act, and which is accounted for herein. The details of the expenditure of the \$22,208.07 may be found in the Appendix to the Public Accounts of Ontario, pp. 7-12. These Federal grants were used to supplement the provincial grants for the same purpose. The charges against the Federal grants were kept quite distinct from the provincial expenditures and fully set out in the report published by the Auditor of Ontario.

The following statement covers a period of twenty-nine months, November 1, 1912, to March 31, 1915. As a county represents the field of operations of every officer, the expenditures are given according to counties. In every case the amount includes the following: Salaries of assistant representatives, office help, rent, office supplies, travelling and miscellaneous disbursements necessitated by the work carried on.

Brant.. . . . .	\$ 3,885 68	Norfolk.. . . . .	\$ 4,403 47
Bruce.. . . . .	4,704 22	Northumberland.. . . . .	5,251 55
Burk's Falls.. . . . .	852 89	Northumberland and Durham.. . .	438 62
Carleton.. . . . .	4,325 45	Ontario.. . . . .	4,374 55
Dryden.. . . . .	953 52	Oxford.. . . . .	4,949 85
Dufferin.. . . . .	3,771 68	Peel.. . . . .	5,572 19
Dundas.. . . . .	4,010 88	Peterborough.. . . . .	5,975 62
Durham.. . . . .	5,794 60	Prince Edward.. . . . .	4,637 42
Elgin.. . . . .	4,161 33	Port Arthur.. . . . .	829 84
Essex.. . . . .	4,616 97	Rainy River.. . . . .	4,721 36
Fort William.. . . . .	863 97	Renfrew.. . . . .	4,676 65
Frontenac.. . . . .	4,578 12	Simcoe.. . . . .	4,193 68
Glengarry.. . . . .	6,073 04	Sault Ste. Marie.. . . . .	2,664 09
Gore Bay.. . . . .	4,970 41	Sudbury.. . . . .	1,351 42
Grey.. . . . .	4,142 84	Victoria.. . . . .	4,477 16
Haldimand.. . . . .	4,712 31	Waterloo.. . . . .	4,270 20
Halton.. . . . .	2,259 64	Welland.. . . . .	2,516 65
Hastings.. . . . .	3,361 49	Wentworth.. . . . .	2,064 42
Kent.. . . . .	5,679 15	York.. . . . .	3,998 21
Kenora.. . . . .	1,805 80	Miscellaneous.. . . . .	5,033 63
Lambton.. . . . .	4,315 15		
Lanark.. . . . .	5,919 78	Total.. . . . .	\$ 180,439 07
Leeds and Grenville.. . . . .	4,709 75	Refunds.. . . . .	550 00
Lennox and Addington.. . . . .	5,061 39		
Middlesex.. . . . .	5,405 03	Net expenditure.. . . . .	\$ 179,889 07
Muskoka.. . . . .	487 72		
New Liskeard.. . . . .	2,615 68		

In the above, Burk's Falls, Dryden, Fort William, Kenora, Muskoka, New Liskeard, Port Arthur, Rainy River, Sault Ste. Marie and Sudbury are the headquarters of the district representatives in the northern district outside of the organized counties. The two entries for Northumberland are explained by the fact that when first organized one office covered the united counties of Northumberland and Durham. Subsequently, however, an office was created for each county.



2.—O. A. C. SHORT COURSES.

Grants: 1913-14 \$1,500, 1914-15 \$1,500.. .. .	\$ 3,000 00	
Expended to March 31, 1915.. .. .		\$ 2,236 49
Balance unexpended March 31, 1915.. .. .		763 51
	\$ 3,000 00	\$ 3,000 00
R. H. Harding, services, \$65, expenses, \$49.40.. .. .		\$ 114 40
Travelling and living expenses of prize winners.. .. .		2,090 59
Loan of live-stock.. .. .		29 00
Incidentals.. .. .		2 50
		\$ 2,236 49

The winners of the acre-profit and live-stock competitions conducted by the district representatives are given a short course at the Ontario Agricultural College. Their travelling and living expenses in connection with the course are charged against this appropriation. These competitions, referred to on page 24, are limited to boys on the farms. All of the above expenditure was incurred subsequent to 31st October, 1913. There were 68 "winners" in the 1913 competitions who were given the short courses at the college in January, 1914, and 47 winners in the 1914 competition who took the course in January, 1915. The above \$2,090.59, therefore, covers the expenses of 115 farm boys.

3.—AGRICULTURE IN PUBLIC AND HIGH SCHOOLS.

Grants: 1912-13, \$10,000; 1913-14, \$10,000; 1914-15, \$13,000.. .. .	\$ 33,000 00	
Expended to March 31, 1915.. .. .		\$ 21,045 33
Balance unexpended March 31, 1915.. .. .		11,954 67
Total.. .. .	\$ 33,000 00	\$ 33,000 00
R. H. Abraham, Field Agent, services and expenses.. .. .	\$ 1,900 49	
W. J. Austin, .. .. .	755 42	
R. A. Finn, .. .. .	1,443 53	
A. M. McDermott, .. .. .	1,431 43	
J. E. McLarty, .. .. .	1,194 39	
E. L. Small, .. .. .	1,491 64	
J. C. Fuller, .. .. .	636 40	
S. E. Percival, .. .. .	840 44	
Mrs. H. B. Miller, assistant to director.. .. .	917 65	
H. Loree, services and expenses.. .. .	116 86	
Travelling expenses, inspectors.. .. .	840 40	
Instructors, services, summer school, 1913.. .. .	1,044 15	
Instructors and students, expenses, summer school, 1913.. .. .	1,215 56	
Instructors, services, summer school, 1914.. .. .	1,596 50	
Teachers' expenses, summer school and teachers' conference, 1914.. .. .	2,074 28	
Services of lecturers, rural teachers' conference.. .. .	402 27	
School grants, bonuses for agricultural teaching.. .. .	1,791 00	
Moving picture machine.. .. .	174 75	
Addressing machine.. .. .	245 00	
Printing, books, advertising, seed, etc.. .. .	1,260 52	
		\$ 21,372 68
Less refunds.. .. .		327 35
		\$ 21,045 33

Under the Agricultural Aid Act \$10,000 was appropriated for this work. As it had not been used at the close of the Ontario fiscal year, October 31, 1912, it was added to the \$10,000 provided in the Agricultural Instruction Act Agreement of 1913-14. To these was added \$13,000 in the agreement of 1914-15, thus making \$33,000 in all. The above statement covers the expenditure down to March 31, 1915. These Federal grants were used to supplement the provincial funds provided to carry



on the work of teaching agriculture in the public and high schools under Prof. S. B. McCready, Director of Agricultural Education. It will be seen that the Federal grant was used mainly for the following purposes: Services of an assistant, services of field agents, expenses of summer school for teachers, expenses of rural teachers' conference, expenses of Public School Inspectors' Course, special grants to schools for teaching agriculture.

4.—MARKETING FARM PRODUCTS.

Grants: 1913-14, \$5,500; 1914-15, \$1,000.. . . .	\$	6,500 00	
Expended to March 31, 1915.. . . .			\$ 5,220 75
Balance unexpended March 31, 1915.. . . .			1,279 25
<hr/>			
Total.. . . .	\$	6,500 00	\$ 6,500 00
<hr/>			
F. C. Hart, Director, salary and expenses.. . . .	\$	3,350 82	
T. D. Jarvis, assistant.. . . .		427 51	
Stenographer.. . . .		557 69	
Equipment and furnishings.. . . .		289 73	
Furniture.. . . .		233 50	
Stationery, postage, incidentals.. . . .		361 50	
<hr/>			
Total.. . . .	\$		5,220 75
<hr/>			

The Markets Branch of the Provincial Department was created under the Federal grant of 1913-14, when \$5,500 was appropriated. Mr. F. C. Hart, B.S.A., who had been for six and one-half years district representative for the county of Waterloo, was appointed director, at a salary of \$2,000 a year. All of the cost of this branch is met out of the Federal grant.

5.—BUILDINGS AT AGRICULTURAL COLLEGE.

Grant, 1913-14.. . . .	\$	56,500 00	
" 1914-15.. . . .		72,000 00	
Balance from Agricultural Aid Act.. . . .		38,714 50	
Expended to March 31, 1915.. . . .			\$ 146,610 02
Balance unexpended March 31, 1915.. . . .			20,604 48
<hr/>			
Total.. . . .	\$	167,214 50	\$ 167,214 50
<hr/>			
<i>Bacteriological Building—</i>			
Supplies, materials, etc.. . . . .	\$	948 86	
Contracts.. . . .		150 00	
Day labour.. . . .		317 00	
Furniture.. . . .		1,084 00	
<hr/>			
			\$ 2,499 86
<i>Field Husbandry Building—</i>			
Supplies, materials, etc.. . . . .	\$	1,055 87	
Contracts.. . . .		55,037 96	
Furniture.. . . .		2,744 84	
Day labour.. . . .		435 41	
C. A. Zavitz, accountable.. . . .		300 00	
W. C. Tanner, Clerk of Works.. . . .		944 50	
<hr/>			
			60,518 58
<i>Poultry Building—</i>			
Contracts.. . . .	\$	29,348 34	
Day labour.. . . .		233 25	
Furnishings.. . . .		367 90	
Material and supplies.. . . .		1,764 18	
Plans, etc.. . . .		261 66	
W. C. Tanner, Clerk of Works.. . . .		260 00	
<hr/>			
			32,235 33
<i>Dairy Barn—</i>			
Contracts.. . . .	\$	1,676 10	
Labour.. . . .		81 25	
Material and supplies.. . . .		1,242 65	
<hr/>			
			3,000 00



SESSIONAL PAPER No. 15c

To Complete Buildings at O. A. C. in 1914—

Contracts.. . . . .	\$ 14,285 40	
Materials and supplies.. . . . .	20,723 65	
Day labour.. . . . .	10,249 87	
Furniture and furnishings.. . . . .	1,002 30	
S. A. Armstrong, accountable.. . . . .	2,000 00	
Incidentals.. . . . .	95 03	
		\$ 48,356 25
Total.. . . . .		\$ 146,610 02

6.—STOCK AND SEED JUDGING.

Grants: 1913-14, \$7,500; and 1914-15, \$7,500.. . .	\$ 15,000 00	
Expended to March 31, 1915.. . . . .		\$ 11,381 34
Balance unexpended March 31, 1915.. . . . .		3,618 66
Total.. . . . .	\$ 15,000 00	\$ 15,000 00

Services and expenses of Instructors as follows—

N. D. McKenzie.. . . . .	\$ 692 45	
Dr. H. G. Reed.. . . . .	901 25	
G. Barbour.. . . . .	134 30	
C. E. Bain.. . . . .	46 40	
G. Brethour.. . . . .	216 10	
J. F. Carpenter.. . . . .	32 85	
D. McVannell.. . . . .	12 00	
J. Gardhouse.. . . . .	251 60	
C. Hamilton.. . . . .	79 80	
W. J. Gardhouse.. . . . .	528 70	
J. P. Sackville.. . . . .	12 40	
R. B. Hinman.. . . . .	15 70	
A. C. Hallman.. . . . .	89 65	
F. R. Mallory.. . . . .	72 65	
R. H. Harding.. . . . .	365 55	
M. J. McQueen.. . . . .	40 55	
J. M. McCallum.. . . . .	589 55	
R. L. Moorehouse.. . . . .	344 95	
H. C. Nixon.. . . . .	145 25	
A. Leitch.. . . . .	56 55	
G. S. Peart.. . . . .	75 10	
C. E. Potter.. . . . .	32 15	
H. M. Robinson.. . . . .	67 15	
R. S. Stevenson.. . . . .	125 95	
Dr. J. A. Sinclair.. . . . .	327 70	
C. Schuyler.. . . . .	50 00	
R. B. Smith.. . . . .	265 75	
F. H. Silcox.. . . . .	243 20	
R. S. Stevenson.. . . . .	318 05	
		\$ 6,123 30
Advertising and printing.. . . . .		756 98
Live-stock loaned.. . . . .		232 25
Rent of halls, tents, stables and caretaking.. . . . .		482 70
Labour, cartage, board and supplies.. . . . .		656 09
Livery and travelling.. . . . .		1,169 12
Freight and express.. . . . .		205 07
Postage.. . . . .		276 30
Sundry persons, accountable warrants.. . . . .		1,400 00
Lantern and slides.. . . . .		151 88
		\$ 11,453 69
Less refunds.. . . . .		72 35
Total.. . . . .		\$ 11,381 34

The above expenditure covered the services and expenses of instructors and incidental disbursements at the two-day courses in live-stock and seed judging carried out under the direction of Mr. G. A. Putnam, Superintendent of Farmers' Institutes.



7.—WOMEN’S INSTITUTES.

Grant, 1913-14.. . . . .	\$ 6,500 00	
“ 1914-15.. . . . .	7,500 00	
Balance from Agricultural Aid Act.. . . . .	2,872 49	
Expended to March 31, 1915.. . . . .		\$ 9,065 62
Balance unexpended March 31, 1915.. . . . .		7,806 87
Total.. . . . .	\$ 16,872 49	\$ 16,872 49
Lecturers, Services and Expenses—		
Mrs. N. H. Altenburg.. . . . .	\$ 1,667 71	
E. M. Collins.. . . . .	359 76	
Miss G. Gray.. . . . .	2,381 94	
Miss I. J. Hobbs.. . . . .	46 40	
Miss Mary E. Mackenzie.. . . . .	667 85	
Miss L. McAllister.. . . . .	40 00	
Miss M. V. Powell.. . . . .	46 65	
Miss E. McKay.. . . . .	707 29	
Miss M. McPayden.. . . . .	273 08	
Miss J. C. Smith.. . . . .	268 05	
Mrs. D. H. Pirie.. . . . .	154 85	
Mrs. M. L. Woelard.. . . . .	21 25	
Mrs. L. R. Stephen.. . . . .	20 80	
Dr. Annie Backus.. . . . .	87 21	
Miss N. Allely.. . . . .	120 24	
Miss D. Hughes.. . . . .	827 19	
Miss A. McDonald.. . . . .	248 08	
Mrs. H. W. Parsons.. . . . .	206 65	
Miss Pauline Shaw.. . . . .	12 00	
A. Chapman.. . . . .	305 20	
		\$ 8,462 20
Less refunds 1911-12.. . . . .		110 10
Total.. . . . .		\$ 8,352 10
Incidentals.. . . . .		\$ 173 52
Printing and binding minute and cash books.. . . . .		440 00
Two hundred copies <i>Public Health Journal</i> .. . . . .		100 00
Total.. . . . .		\$ 9,065 62

The above persons gave instruction at short courses and rural classes in cooking, sewing and home life.

8.—SHORT COURSES, FAIR AND FIELD CROP JUDGES.

Grant: 1913-14, \$5,140; 1914-15, \$1,500.. . . . .	\$ 6,640 00	
Expended to March 31, 1915.. . . . .		\$ 5,930 85
Balance unexpended March 31, 1915.. . . . .		709 15
Total.. . . . .	\$ 6,640 00	\$ 6,640 00

To this is charged the services and expenses of instructors at the short courses held at the Agricultural College, and at the Central Experimental Farm, Ottawa, for the judges sent out by the department to judge in the standing field crop competitions and at fall fairs. Their expenses attending the courses are met out of this fund.

9. DRAINAGE WORK.

Grant, 1913-14.. . . . .	\$ 5,000 00	
“ 1914-15.. . . . .	4,000 00	
Balance from Agricultural Aid Act.. . . . .	2,311 05	
Expended to March 31, 1915.. . . . .		\$ 11,386 98
Balance over-expended March 31, 1915.. . . . .	75 93	
Total.. . . . .	\$ 11,386 98	\$ 11,386 98



R. H. Clemens, Superintendent, salary and expenses.. . . . .	\$	1,452	90
A. E. McLaurin, Foreman, salary and expenses.. . . . .		1,288	63
C. M. Laidlaw, Soil Analyst, salary and expenses.. . . . .		931	36
M. J. Underhill, Soil Analyst, salary and expenses.. . . . .		294	08
Fieldmen, various persons.. . . . .		481	85
Draftsmen, various persons and expenses.. . . . .		302	33
Machine operators.. . . . .		1,190	45
Stenographers.. . . . .		425	50
Tile layers, sundry persons.. . . . .		912	96
Day labour.. . . . .		80	12
W. H. Day and J. W. Fry, college staff, travelling.. . . . .		266	20
Tile.. . . . .		1,248	90
Express, freight and cartage.. . . . .		777	45
Materials, repairs, supplies and incidentals.. . . . .		1,734	25
Total.. . . . .	\$	11,386	98

## 10.—DEMONSTRATIONS IN VEGETABLE GROWING.

Grants: 1913-14, \$2,500; 1914-15, \$2,500.. .. .	\$	5,000	00		
Expended to March 31, 1915.. .. .				\$	4,161 72
Balance unexpended March 31, 1915.. .. .					838 28
					<hr/>
Total.. .. .	\$	5,000	00	\$	5,000 00

C. S. Johnston, Director, salary and expenses.. . . . .	\$	3,268	98
Furnishings and equipment.. . . . .		308	40
Sundry persons, services and expenses.. . . . .		161	80
Supplies and stationery.. . . . .		170	06
Printing and advertising.. . . . .		5	50
Incidentals and livery.. . . . .		246	98
Total.. . . . .	\$	4,161	72

## 11.—DEMONSTRATION WORK ON SOILS.

Grants: 1913-14, \$2,500; 1914-15, \$5,000.. .. .	\$	7,500	00		
Expended to March 31, 1915.. .. .				\$	5,854 33
Balance unexpended March 31, 1915.. .. .					1,645 67
Total.. .. .	\$	7,500	00	\$	7,500 00

W. L. Iveson, services as instructor.. . . . .	\$	1,834	61
R. Bryant, " " " " " " " " " " " "		1,160	00
D. McKee, " " " " " " " " " " " "		1,197	11
C. W. Stanley, " " " " " " " " " " " "		425	00
Sundry persons, travelling.. . . . .		508	85
Supplies.. . . . .		373	90
Equipment and repairs.. . . . .		252	48
Freight.. . . . .		102	38
Total.. . . . .	\$	5,854	33

As referred to on page 28, this covers the cost of demonstrations in drainage in sections of the province where the value of underdrainage has not been recognized. This is a case of taking drainage to the farmer; whereas the expenditures under section 9 cover cost of work done on application of the farmers.



12. LIVE STOCK AND POULTRY DEMONSTRATIONS.

Grants: 1913-14, \$4,000; 1914-15, \$4,500.. . . .	\$	8,500	00		
Expended to March 31, 1915.. . . .				\$	5,402 20
Balance unexpended March 31, 1915.. . . .					3,097 80
<hr/>					
Total.. . . .	\$	8,500	00	\$	8,500 00
<hr/>					
F. W. Marcellus, Instructor, salary and expenses.. . . .	\$	3,346	74		
W. H. King, Instructor, salary and expenses.. . . .					757 00
<hr/>					
Lecturers, Services and Expenses—					
A. Leitch.. . . .	\$	150	00		
J. W. Clark.. . . .		108	20		
Miss M. Yates.. . . .		31	75		
H. Barton.. . . .		75	00		
W. J. Bell.. . . .		47	00		
P. A. Boving.. . . .		40	00		
G. E. Day.. . . .		45	00		
Gunns, Limited.. . . .		12	85		
L. S. Klinck.. . . .		40	00		
R. Miller.. . . .		65	00		
F. H. Scott.. . . .		120	90		
J. Gardhouse.. . . .		40	00		
W. F. Stephen.. . . .		60	00		
J. Murray.. . . .		20	00		
Sundry persons.. . . .		90	00		
					<hr/>
					945 70
Travelling and incidentals.. . . .					352 76
<hr/>					
Total.. . . .	\$	5,402	20		

The above covers special instruction in “Extension Work” in live-stock and poultry, Mr. W. H. King being instructor in live-stock, and Mr. F. W. Marcellus, instructor in poultry. These two lines were directed by Prof. Geo. E. Day and Prof. W. R. Graham, of the Agricultural College.

13. SPRAYING DEMONSTRATIONS.

Grant, 1913-14.. . . .	\$	3,000	00		
“ 1914-15.. . . .		7,500	00		
Balance from Agricultural Aid Act.. . . .		965	31		
Expended to March 31, 1915.. . . .				\$	8,115 79
Balance unexpended, March 31, 1915.. . . .					3,349 52
<hr/>					
Total.. . . .	\$	11,465	31	\$	11,465 31
<hr/>					
G. J. Culham, Instructor, college staff, salary and expenses.. . . .	\$	1,803	30		
H. S. Fry, Instructor, college staff, salary and expenses.. . . .					1,305 76
<hr/>					
Services and Expenses of Assistants—					
J. T. Barnett.. . . .	\$	88	11		
S. H. Chase.. . . .		397	85		
F. C. Donald.. . . .		296	85		
R. Fox.. . . .		97	75		
E. Hineman.. . . .		303	80		
W. F. Kydd.. . . .		910	66		
W. J. Schyler.. . . .		199	05		
M. T. Smith.. . . .		316	37		
L. Smith.. . . .		138	55		
H. N. Webster.. . . .		243	78		
M. H. Winter.. . . .		253	90		
R. Graham.. . . .		77	10		
W. E. Patterson.. . . .		129	60		
M. Blackburn.. . . .		87	60		
W. L. Hamilton.. . . .		83	80		
E. F. Palmer.. . . .		276	98		
					<hr/>
					\$ 3,901 75
Labour and horse hire.. . . .					309 70
Materials and supplies.. . . .					324 65
Incidentals and livery.. . . .					470 63
<hr/>					
Total.. . . .	\$	8,115	79		



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DEMONSTRATIONS IN BEE-KEEPING.

Grants: 1913-14, \$1,360; 1914-15, \$1,000.. . . .	\$	2,360 00	
Expended to March 31, 1915.. . . .			\$ 2,051 98
Balance unexpended March 31, 1915.. . . .			308 02
Total.. . . .	\$	2,360 00	\$ 2,360 00
Instructors, services.. . . .	\$	1,366 75	
"    expenses.. . . .		631 53	
Incidentals.. . . .		53 70	
Total.. . . .	\$		\$ 2,051 98

15. LECTURES IN HORTICULTURE.

Grants: 1913-14, \$500; 1914-15, \$500.. . . .	\$	1,000 00	
Expended to March 31, 1915.. . . .			\$ 566 55
Balance unexpended March 31, 1915.. . . .			433 45
Total.. . . .	\$	1,000 00	\$ 1,000 00
Instructors, services.. . . .	\$	244 00	
"    expenses.. . . .		322 55	
Total.. . . .	\$		\$ 566 55

16. MISCELLANEOUS.

Grants, 1913-14.. . . .	\$	4,233 32	
"    1914-15.. . . .		1,868 83	
Balance from Agricultural Aid Act.. . . .		1,662 27	
Expended to March 31, 1915.. . . .			\$ 2,968 45
Balance unexpended March 31, 1915.. . . .			4,795 97
Total.. . . .	\$	7,764 42	\$ 7,764 42
Grant to Elgin Corn Growers' Association.. . . .	\$	200 00	
S. C. Johnston, travelling.. . . .		274 87	
Milking machine.. . . .		393 40	
Alfalfa seed.. . . .		1,012 75	
Steer to Brandon, transportation.. . . .		195 55	
Duty and freight.. . . .		118 71	
L. D. Harkinson, services and expenses.. . . .		51 15	
Incidentals.. . . .		60 30	
Moving picture outfit.. . . .		235 00	
Sundry persons, services and expenses.. . . .		112 47	
Dairy appliances.. . . .		280 55	
Live-stock.. . . .		33 70	
Total.. . . .	\$		\$ 2,968 45

The Brandon steer, champion at the International Show, Chicago, was brought to Ontario for demonstration purposes. The alfalfa seed was for experimental and demonstration purposes (see Report of 1913-14, pp. 90-92). The milking machine has been placed at the Agricultural College. The moving picture machine will be used for demonstrations throughout the province.



AGRICULTURAL AID ACT GRANT, 1912.—STATEMENT TO MARCH 31, 1915.

Classification.	Grant.	Expended Oct. 31, 1912.	Unexpended Oct. 31, 1912.	Disposal of Balance.	Expended Mar. 31, 1915.	Balance Unexpended Mar. 31, 1915.
	\$ cts.	\$ cts.	\$ cts.		\$ cts.	\$ cts.
Field Husbandry Building, O.A.C.....	40,000 00	1,285 50	38,714 50	Included with 1913-14 Grant.		
District Representatives.....	22,500 00	22,208 07	291 93	"		
Poultry Work.....	10,000 00	625 00	9,375 00	Carried forward	9,995 61	4 39
Milking-Shorthorns.....	12,500 00	22 79	12,477 21	" ..	10,643 89	1,856 11
Fruit Work.....	9,000 00	2,478 18	6,521 82	" ..	8,034 69*	
Drainage.....	5,000 00	2,688 95	2,311 05	Included.....		
Dairy Survey.....	2,000 00	245 03	1,754 97	Carried forward	1,784 49	215 51
Miscellaneous.....	2,233 32	571 05	1,662 27	Included.....		
O.V.C. Additional Land Agricultural Exhibition Buildings.....	15,500 00	1,800 00	13,700 00	Carried forward	2,005 07	13,494 93
Shourt Courses.....	10,000 00	7,500 00	2,500 00	" ..	10,000 00	
Live Stock Northern Ontario.....	7,000 00	675 00	6,325 00	" ..	7,000 00	
Women's Institutes.....	5,000 00	1 95	4,998 05	" ..	5,000 00	
West. Ontario Creamery Work.	3,500 00	627 51	2,872 49	Included.....		
Soil Survey.....	1,500 00	303 75	1,196 25	Carried forward	368 10	1,131 90
E. Ontario Live Stock Building... ..	500 00	284 83	215 17	" ..	500 00	
Agriculture in Public Schools.....	12,000 00		12,000 00	" ..	12,000 00	
Western Fair London...	10,000 00		10,000 00	Included.....		
Totals.....	7,500 00		7,500 00	Carried forward	7,500 00	
	175,733 32	41,317 61	134,415 71		74,831 85	16,702 84

\*Expended on Oct. 31, 1914. The balance under this section of \$965.31 was included with the 1914-15 Grant.



SESSIONAL PAPER No. 15c

COMPARATIVE STATEMENT OF EXPENDITURE OF PROVINCIAL FUNDS FOR AGRICULTURAL PURPOSES FOR THE YEARS 1912, 1913 AND 1914, AND ESTIMATED EXPENDITURE FOR 1915.

Service.	1912, To Oct. 31.	1913, To Oct. 31.	1914, To Oct. 31.	1915, To Oct. 31 (Estimated).
	\$ cts.	\$ cts.	\$ cts.	\$ cts.
Department of Agriculture— Salaries; Contingencies; Incidentals and Miscellaneous.....	100,718 25	98,306 79	109,973 95	119,875 00
County Representatives.....	35,578 78	40,596 68	39,668 93	40,600 00
Live Stock Interests— Grants and Winter Fairs; Grants to Poultry Association and Horse Shows; Stallion Registration; Sheep Experi- ments, etc.; Spring Shows.....	32,887 64	38,793 66	38,563 78	46,400 00
Dairy Interests— Grants; Instruction and Inspection; Dairy School; Miscellaneous.....	60,784 32	58,574 35	58,701 09	62,000 00
Agricultural and Horticultural Societies— Insurance; Field Crop Competitions and Judges; Expert Judges; Exhibitions; Special Grants.....	137,732 59	129,473 98	125,548 19	154,500 00
Institutes—Farmers' and Women's.....	31,068 70	32,932 25	27,323 52	30,800 00
Fruit Interests— Grants; Spraying Assistance; Special Crop Experiments; Cold Storage Experiments and Exhibits; San Jose Scale; Horticultural Experiment Sta- tions; Apiary Inspection; Demonstra- tion Work.....	47,296 79	45,454 87	54,934 72	53,900 00
Ontario Veterinary College— Salaries and Expenses.....	32,396 25	32,929 74	33,589 22	37,400 00
Ontario Agricultural College, Macdonald In- stitute, and Ontario Experimental Farm: Salaries and Expenses.....	256,742 95	264,458 55	284,507 65	301,558 42
Totals.....	735,206 27	741,520 87	771,811 05	847,033 42
Revenue.....	167,224 91	177,131 50	157,141 80	125,000 00
Net total.....	\$567,981 36	\$564,389 37	\$614,669 25	\$722,033 42

BY THE DEPARTMENT OF EDUCATION.

Service.	1913, to Oct. 31,	1914, to Oct. 31.	1915, to Oct. 31, (estimated).
	\$ cts.	\$ cts.	\$ cts.
Director Elementary Agricultural Education.....	2,600 00	2,600 00	2,600 00
Instruction in Agriculture and Horticulture, and Grants to School Gardens.....	4,477 79	4,482 66	4,500 00
Instruction in Industrial Arts and Household Science...	110 00	30 00	2,000 00
Travelling expenses, Normal School students, and Na- ture Study.....	1,016 60	1,155 34	1,200 00
School Gardens for Normal Schools.....	45 25	130 70	1,000 00
Agricultural training in High Schools by District Representatives.....	36,350 00	37,120 33	43,200 00
Special Industrial and Agricultural Education.....	3,646 17	2,206 16	5,000 00
	\$48,245 81	\$47,725 19	\$59,500 00



QUEBEC.

The subsidy provided under the Agricultural Instruction Act and its allotment in 1914-15:—

Poultry raising.. . . .	\$ 16,000 00
Fruit culture.. . . .	20,000 00
Bacon industry.. . . .	9,000 00
Schools of Agriculture.. . . .	60,000 00
Agricultural instruction in Academies, Rural and Normal schools..	7,000 00
District representatives.. . . .	12,000 00
Experimental Union.. . . .	2,000 00
Alfalfa and clover.. . . .	2,000 00
Seed selection.. . . .	4,000 00
Bee-keeping.. . . .	8,000 00
Tobacco industry.. . . .	3,000 00
Dairy industry.. . . .	17,000 00
Drainage.. . . .	8,000 00
Domestic science.. . . .	10,000 00
Maple sugar.. . . .	3,000 00
Lectures.. . . .	6,409 16
Total.. . . .	\$ 187,409 16

OUTLINE OF WORK PERFORMED.

The following statement of the work carried on in the province of Quebec is based mainly on the report of Mr. J. C. Chapais, of St. Denis en bas (Kamouraska County), who is Assistant Commissioner of Agricultural Instruction for the province of Quebec. Mr. Chapais visited the schools of agriculture, inspected the demonstration work, assisted at agricultural conferences, and verified the expenditures.

Nearly one-third of the Federal Subsidy for 1914-15 was allotted to the Schools of Agriculture. The remainder aided the Department of Agriculture (1) to carry on instruction in scientific methods of agriculture, and (2), to promote agricultural teaching and instruction in domestic economy in the schools.

Of the institutions devoting themselves entirely to the teaching of agriculture there are four in the province, the Macdonald College, the Agricultural Institute at Oka, the Agricultural School at Ste. Anne de la Pocatière, and the Dairy School at St. Hyacinthe.

THE MACDONALD COLLEGE.

This institution is organized into three departments: (1) The School of Agriculture, (2) The School for Teachers, and (3) The School of Household Science.

The School of Agriculture provides theoretical and practical instruction in agriculture, and carries on investigation and research work. The two-year course qualifies for a diploma, and the four-year course for the degree of Bachelor of Science in Agriculture.

School for Teachers: This institution is intended to give a thorough training to Protestant teachers. The course includes nature-study, household science and manual training. Teachers give a guarantee to teach for at least three years in the province of Quebec after graduating. In addition to Elementary, Kindergarten and Model School diplomas, a model diploma is granted to agricultural students. The latter course combines the work of the School for Teachers with that of the first two years in the regular course in Agriculture.



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School for Household Science: The courses offered are as follows:

- (a) Homemaker Course—One year;
- (b) Institutional Administration Course—two years;
- (c) Short Course—(3 months). Three courses in all branches of household science; one in dressmaking, and certain special short courses.

Federal Aid: The aid given to the work of the Macdonald College, under the Agricultural Instruction Act, amounted to \$20,000 for the year 1914-15. From this sum are provided the salaries of additional members of the staff, the salaries (summer only) of District Demonstrators and their assistants, and of the Homemaker Club Demonstrator, amounting in all to \$12,505, the balance going to meet the expense (wholly or partly) of the work carried on by these officers, which was as follows:—

(a) Animal Husbandry: This department is concentrating its attention on increasing the number of pure-bred sheep in the province and in forming wool associations. A number of these have been organized. During the year, 10,000 pounds of wool produced by members was graded and marketed at an average price of 30 cents per pound, some 7 to 10 cents more than was received for wool sold individually. A grader from the Massachusetts Institute of Technology was employed. An experiment in feeding grain screenings to sheep and lambs was conducted, and shearing demonstrations held.

(b) Bacteriology: Conclusion of investigations into the milk supply of Montreal.

(c) Biology: Investigation work in connection with weeds and insects.

(d) Cereal Husbandry: Owing to the probable scarcity of European seed in 1916, this branch is seeking to promote the growing of root seed by the farmers. Demonstration meetings have been held and experiments conducted at eight centres. Better results have been secured from Canadian-grown than imported seed. Improved seed is being raised and distributed with a view to inducing root-seed production. Cultural experiments have also been conducted. The work is financed entirely by the grant.

(e) Chemistry: The services of Mr. Van Zoeren, Chief Chemist of the St. Louis Sugar Refinery, have been secured, and work has begun on methods of detecting adulteration in maple sugar.

(f) Horticulture: Twenty orchard demonstrations were held in the spring of 1915, a vegetable-garden bulletin was prepared and issued; an experimental irrigation system for vegetables and small fruits was installed, and seed distributed to school children.

(g) Household Science: Under the direction of the School of Household Science, 21 Homemakers' Clubs were organized during the year, the total number established being 33. Four travelling libraries were sent out, besides bulletins, pamphlets and other literature. The second annual Convention of these clubs was held at the College in June, 1915, and 40 delegates attended. A demonstrator assists the women of rural communities in organizing clubs, and gives lectures and demonstrations.

(h) Physics: Continuation of investigation work in connection with soil moisture.

(i) Poultry: Demonstration houses have been established at six points, where breeding flocks will be maintained and the eggs distributed. In connection with school fair work, 610 settings of eggs were distributed.

(j) Veterinary Work: In addition to the classes at the College, demonstrations and lectures have been given at points throughout the province.

(k) District Demonstrators: Eight graduates of the College have been appointed resident demonstrators in certain farming centres. They have also been given assistants. The work carried on is similar to that performed by the District Representatives of the Province of Ontario. They are also teaching agriculture in 23 academies and schools. Through their efforts, children's potato, corn, and other clubs have been organized.



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The materials supplied and distributed to these clubs consisted of settings of eggs, seed potatoes, improved seed wheat, oats, barley and corn, and flower and vegetable seeds. In 1914, seven school fairs were held in five centres, embracing over sixty schools. In some cases the attendance exceeded that of the county fair.

**Short Courses:** During the year six short courses were held at the College and twenty-three at outside points. The College courses included: (a) Special course of one month in Agricultural Drainage for students of the various agricultural colleges in the province, with the object of training them for drainage survey work to be carried on by the Provincial Department of Agriculture. Five students from each of these colleges attended. (b) Three courses in Household Science, each of about eleven weeks duration; attendance 60; (c) A four-day course in Horticulture; attendance, 28 men, 12 women; (d) a three-weeks' course in Poultry; attendance, 13 men and 9 women. Total attendance at all College Short Courses, 137.

The nature of the outside courses varied according to the departments offering them. The members of the staff are impressed with the value of those courses, not only to the farmers, but to themselves, bringing them into touch with the needs of the farming community, and giving the people a better understanding of the work that the College seeks to accomplish. The total attendance at the men's courses was 2,539, and at the Household Science Courses held at nine places, the attendance was 675. Ninety addresses were given by seventeen members of the staff.

#### THE OKA AGRICULTURAL INSTITUTE.

The Agricultural Institute at Oka, (recently affiliated with Laval University) serves the western part of the province and is carried on by the Trappist Fathers.

The full four year course leads to a degree and includes practical and theoretical work in the following: Butter and cheese-making (including Cheddar and soft cheese), field culture, study of soils, fruit and tree culture, kitchen gardening, breeding and raising of live stock, bee-keeping, dairying, wine, cider and maple-sugar making, and the canning of fruits and vegetables.

**Federal Aid:** The grant to this institution was \$20,910. Of this amount \$10,044.96 went to provide salaries for members of the staff added through the Act. An annual allowance of \$5,000 is made to meet the cost of extending the College building.

**Short Courses.**—Short courses for farmers were held from January 11 to 23. The attendance was 127 students, who were boarded and lodged at the institute. About 30 persons not entered as regular students boarded outside, and attended the lectures. Eighty students were refused on account of lack of accommodation, but with the completion of the building extension, this will be avoided. No lectures are given outside the institute by members of the staff. The subjects taught were as follows: First week: General farming, gardening and canning of fruits and vegetables, fruit culture, cider and vinegar making, good roads; horse-breeding. Second week: Cattle-breeding and dairying; poultry, beekeeping; swine breeding and the preparation of cured meats; maple products; agricultural teaching in rural schools; co-operation.

The practical work performed in the laboratory and various departments of the farm, included grafting, making and sowing of hot-beds, etc., killing and plucking fowl, egg-testing, incubator operations. During the evenings, lantern-slide lectures were given. During the short courses, the annual meetings of the Quebec Experimental Union and Young Farmers' Association were held at the institute.

#### THE STE. ANNE DE LA POCATIÈRE SCHOOL.

The Agricultural School at Ste. Anne de la Pocatière serves the French population in the eastern part of the province. The school is under clerical control, and the course of study is similar to that of Oka. Arrangements are being made for its affiliation with Laval University. Under the Instruction Act, the school received a grant of \$18,090 for the year 1914-15, including board allowance for students.



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*Short Courses.*—Over two hundred persons attended the Short Course lectures in the early part of 1915, held at this school. The attendance is increasing each year, indicating that the method of teaching is appreciated. The following subjects were dealt with, viz.: Selection and feeding of stock, dairying, including cow-testing, manures, and fertilizers, rotation of crops and pasture, book-keeping, forestry, fruit-culture and bee-keeping.

Mr. J. C. Chapais, Assistant Commissioner for Quebec, reports as follows:—

“I have visited three times this year both the Oka Agricultural Institute and the Ste. Anne de la Pocatière Agricultural Schools. These two institutions have had, until now, to refuse the admission of many students for lack of accommodation. A fine, compact and capacious building has been erected at the Oka Institute, which is now ready for occupation, and two spacious wings are being added to the Ste. Anne de la Pocatière school, which will be ready for occupation in the course of the present year. With these new buildings, which the grant of the federal subsidy has enabled them to erect, the schools will have ample room for their laboratories, museums, libraries, classes, as well as all the space needed to double the number of students.

“These two establishments have had to bear the absence of some of their professors from France and Belgium, who were called to the front. One of them, Mr. Nagant, of Oka, has even been a prisoner of the Germans for six months, but has now returned to the institute.

“A new bulletin on vegetable gardening has been written by the Horticulturist of the Oka Institute, and printed and distributed by the Quebec Department of Agriculture.”

AGRICULTURE AND HOUSEHOLD SCIENCE IN SCHOOLS.

This department of work comes under the control of the Department of Public Instruction. In 1899 the legislature enacted that agriculture should be taught in all rural schools. Hitherto the results have been unsatisfactory, so far as the elementary schools are concerned; the principal reason being that the teachers, almost entirely women, had not received the necessary training and were not competent to deal with the subject, and made little impression on public opinion.

In the opinion of the Superintendent of Public Instruction, Quebec, in common with the other provinces, is beginning to recognize the meaning and value of the work and a real demand is beginning to be felt for agricultural teaching in rural schools. To meet this demand the Roman Catholic Normal Schools are giving a complete course in agriculture for rural teachers. These teachers-in-training receive lectures by specialists, and are required to qualify in the subject before receiving their diploma. Those who have qualified recently may be regarded as competent instructors. Protestant teachers receive instruction at the Macdonald College.

The Oka Institute provides special agricultural courses for Roman Catholic school inspectors and a number have already qualified to supervise the work. Macdonald College is arranging for a similar course for Protestant inspectors.

The Protestant Committee of the Council of Public Instruction is now taking steps towards the carrying on of a summer school for teachers who have not attended Macdonald College. With a view to preparing teachers in model schools and rural concentration schools in the province to teach agriculture, an arrangement has been entered into between Macdonald College and the Protestant committee whereby each student of the first year in agriculture who has passed the school leaving examination has the privilege to study for the model diploma during his course in agriculture. This diploma is granted on completion of two years' training.



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The Macdonald district demonstrators give lectures in some of the model schools and academies, and arrangements are being made to extend and systematize the work.

**School Gardens:** School gardens are not required by regulation but the movement has made a natural growth through private initiative and enthusiasm. At the Macdonald Training School for Teachers each teacher is required to cultivate a garden plot and all work in the "Nature Study" department, such as the relation of air, soil and water to plant and to human life, is based on observation and experiment made by the student in garden, field or laboratory. This year the children in 234 schools took up the work of school gardens, an increase of 50 schools over 1914.

The district representatives contribute to the success of the school gardening movement, besides being active in organizing children's clubs. Several school fairs were held, and a further development is looked for in this direction. The department furnished seeds, eggs, fertilizer and garden tools.

**Domestic Science:** This subject is obligatory in the girls' department of the Roman Catholic Normal schools. At Macdonald College it forms a separate branch of instruction, being so extended that pupils may fit themselves to act as teachers.

Domestic science subjects do not form a part of the compulsory course of instruction in the public elementary schools, but in many of the convent schools these subjects are taught to the pupils in residence and sometimes also to day pupils. In some of the Protestant schools of Montreal, and one in Quebec city, domestic science courses are provided, but attendance is optional.

Mr. Chapais reports that there are forty-five schools of domestic science in the province, all except two (Macdonald College and one in Montreal) being convent schools. The total number of pupils in attendance at all schools is 4,322. Those now engaged in teaching in convent schools are offered a special short course at the Normal schools at Roberval and St. Paschal. Teachers from all quarters have responded. To assist in the carrying on of this work a grant of \$300 is made to each school from the federal subsidy.

The convent schools afford the household science pupils a certain amount of outside instructions, including garden, poultry, apiary, orchard and dairy work. Rev. O. E. Martin writes:—

"Each school also has a modern poultry house, and some have splendid flocks of fowls. The preparation of grain and mashes, the cleaning of nests and roosts, the ventilation, etc., are all part of the daily programme. With the poultry house there are also the incubator, the brooder and the care of eggs and chicks. The pupils, at least the most advanced, know all about these things. But they are quite as much interested in gardening work as in poultry work. Most of them take a real delight in conducting a hot-bed, examining the seeds, seeding, preparing the soil, transplanting, weeding, etc. The apiary, the small orchard and the growing of flowers are also the object of the attentive care of the pupils. Great stress is laid on the importance of cleanliness in the production and conservation of milk."

This year twenty-eight domestic science schools made a display of pupils' work at the Quebec Exhibition. A gold, a silver and a bronze medal, and three diplomas were awarded. The exhibits were considered one of the most attractive features of the exhibition.

**Outside Short Courses:** During the early months of 1915 short courses of one week's duration were held in fifteen counties. These courses were for the benefit of the French-speaking communities and were distinct from those held under Macdonald College auspices.

**Young Farm Women's Clubs:** The short courses led to the organization in several localities of "Cercles des Jeunes Fermieres," or Young Farm Women's Clubs. These have been established at Roberval, Lake St. John County, at Chicoutimi,



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Chicoutimi County, and at Champlain, Champlain County, and average fifty members. These differ to a certain extent from the women's institutes. The chief object of the institutes is to teach domestic science, while the clubs deal mainly with agricultural matters, their objects being:—

1. To teach women a knowledge of rural matters and make them interested in such matters—

(a) By the establishment of a co-operative library.

(b) By the study of various questions of domestic economy, agricultural book-keeping, hygiene, flower-growing, ornamental shrubs, and similar matters.

2. To encourage the development of small agricultural industries of particular interest to women, viz: Dairying, bee-keeping, poultry-keeping, horticulture, arboriculture, etc.

Each has been supplied with the equipment necessary for handling bees, poultry, garden and orchards, including 50 dozen eggs for hatching. Experts and lecturers from the Department give instruction. In the spring of 1915, instructors from the fruit division visited each club and planted 600 apple trees, 400 plum trees, 800 strawberry, raspberry, gooseberry and currant plants. The results of the movement are considered to be very satisfactory and a large development is looked for.

Mr. Chapais states that after lecturing at the club at Roberval on agricultural domestic science he visited the garden of the club, "which is established in the centre of the town, and is one of the best vegetable and flower gardens I have had the privilege of seeing. The fact of its establishment at Roberval has given such an impetus to home-garden development that fifty-two new private gardens are under cultivation. At Chicoutimi I also inspected the club's garden, poultry house and apiary started in the spring, and found them well on the way of sound progress."

## FRUIT CULTURE.

The work on the fruit branch of the department is performed through the following channels, viz: Fruit stations, experimental fields, demonstration orchards and horticultural societies. About two-thirds of the cost of the work is financed by the Federal grant.

The following have been established:—

(1) *Experimental Fields*.—Sixteen of these are established, some in districts where the climate is severe, with the object of testing out the hardiest varieties.

(2) *Fruit Stations*.—Thirty-six stations have been established to demonstrate practical orcharding. These orchards are in charge of the owners of the land who receive an annual rental of \$25 from the department. They are equipped with pruning and spraying appliances and supplied with spraying materials. These are being superseded to some extent by the experimental fields.

(3) *Demonstration Orchards*.—These are intended to serve as models. They are seven in number and are leased by the department at \$25 per acre, and furnished with the necessary equipment. Two orchards have grading machines in use, one has a cold storage warehouse and all are equipped with automatic pumps. The total expenditure is limited to \$500 per annum for each orchard.

The work performed by the Macdonald College in connection with fruit-culture consists of orchard demonstrations in pruning, spraying, grafting and orchard management, and the distribution of printed matter. In addition it has been deemed wise to establish a number of illustration orchards at central points in sections outside of the better known apple districts. At Lennoxville and at Shawville small orchards of 50 trees of McIntosh Red and Fameuse have been planted, and it is the intention to add more varieties to these in the near future and also to establish other plantings of a



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similar nature elsewhere. Only those varieties that are perfectly hardy and most likely to be satisfactory are being planted. The orchards are intended to be a gathering place for meetings in the future as well as a demonstration of just what may be accomplished in apple growing in these sections. The two orchards already planted are under the Macdonald College demonstrators located at Shawville and Lennoxville, and both of these orchards have done exceptionally well during the past year. Plans are now being made for the planting of several more orchards.

The results so far obtained in these various establishments have been so satisfactory that fruit growing has made progress in the whole province. Not only are the farmers now establishing orchards or renovating those that they have already, but everywhere they are organizing new horticultural societies or co-operative associations in order to improve, increase and market the produce. In all the horticultural exhibitions held this year a marked improvement could be noticed by comparison with the previous years in the appearance, the grading and the packing of the fruit.

#### POULTRY.

Twenty-nine poultry stations at various points in the province are operated under the general supervision of Bro. Ligouri of the Oka Trappist Fathers. Six other demonstration plants are under the direction of the lecturer on poultry at the Macdonald College. In the case of the department plants, the grounds, buildings and equipment are leased to the managers, who supply the birds, which must be pure bred. The superintendent and his assistants give lectures and practical demonstrations in poultry keeping at the domestic science schools, normal schools, poultry stations, and at the six poultry exhibitions held in the province. At the latter, demonstration plants were installed. A two-weeks' course in poultry is offered at Oka to school inspectors. A Bulletin on Poultry was issued and distributed together with a large number of leaflets dealing with poultry topics. Two-thirds of the cost of the department's work in this connection is financed under the federal grant.

The Macdonald College conducted educational exhibits at the larger poultry and agricultural shows in the English-speaking sections and issued a bulletin for distribution.

The following appeared in the Canadian Poultry Review of December, 1915:

"One of the handsomest Bulletins that we have ever seen is that entitled 'Farm Poultry,' just issued by Prof. M. A. Jull, Macdonald College, P.Q. Not alone is it unique in the quality of its printing, but it contains a mass of quite original matter and a number of engravings that are new to us and to others. It is really a library book and we value it highly, so much so indeed that we hope from time to time to give copious illustrated extracts from the bulletin. Mr. Jull is to be congratulated on his work in issuing such a handsome book, the result of a very considerable amount of care, attention and detail."

#### DISTRICT REPRESENTATIVES.

Six district agronomists or representatives are operating in the province in addition to the Macdonald College demonstrators who serve the English-speaking communities. Of the six, five are graduates of Oka and one of Macdonald. Assistants have been appointed in several instances. The scope of their work includes the supervision of agricultural societies, farmers' clubs and co-operative associations, lectures, visits to farmers and the promotion of the various phases of agriculture in their respective districts, besides promoting school gardens, school fairs and children's clubs. It is reported that the work of the representatives is beginning to make itself felt in a progressive movement among the agricultural communities of the province. The cost of the work is defrayed by the federal subsidy.

#### BACON.

To meet the need for men capable of managing plants for bacon-curing, being undertaken by co-operative associations already formed or in process of forma-



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tion, a school of instruction was opened in the summer of 1915 at St. Valier, Bellechasse county. The building is 32 x 90 feet with a capacity of 75 pigs per week, and is provided with a first-class refrigeration plant.

The Oka Institute and the school at Ste. Anne de la Pocatière also give instruction in bacon-curing. Work in connection with this industry is under the supervision of Mr. A. Hansen, bacon expert of the Provincial Department of Agriculture, and superintendent O. Garneau. A bulletin on the industry, prepared by Mr. Hansen, has been issued. The expenses of this branch of work are met by the federal subsidy.

*Experimental Union.*—The Quebec Experimental Union, to which a grant of \$500 is made from the subsidy, has its headquarters at the Oka Institute. Assistance is given in the formation of co-operative societies, poultry associations, etc., and seeds and plants are distributed for experiment. The society also conducts a small experimental farm in connection with the Quebec Boys' Normal School. The poultryman, bee-keeper and gardener assist in the work of instruction. A sub-office of the Union has been opened at the farm. Alfalfa seed has been distributed in many districts for experiment. In 1914, demonstrations in regard to cold hen-houses were given in Dorchester county, which resulted in thirty being built.

*Alfalfa, Clover and Pure Seed Production:* Experiments in alfalfa are conducted through the Experimental Union, and during the last few years tests have been made in all sections of the province by means of small experimental plots.

A number of fields to demonstrate the growing of clover for seed have been conducted from year to year. A clover-hulling machine has been demonstrated by the department in various sections of the province to promote clover seed production. It is anticipated that as a result the province will soon produce enough clover seed to meet requirements.

A commercial organization, known as the Quebec Seed Growers' Co-operative Agricultural Association, with headquarters at Ste. Rosalie, Bagot County, purchases registered seed and distributes the same to its membership. Modern machinery for the cleaning and selection of seed has been installed and two clover hullers are operated for demonstration purposes. Many small co-operative societies also have cleaners and hullers. The provincial association offers special prizes to its members for seed production.

In 1914, sixty-four societies each received a grant of \$75 from the department, which distributed \$4,892 in prizes to seed growers, two-thirds of the amount being provided by the Federal grant. A provincial seed exhibition is held annually in addition to local exhibitions by agricultural societies.

*Underdrainage:* The two ditching machines purchased in 1912 excavated 55,885 feet of drain during the year. Nine young men who took the special drainage course at the Macdonald College were employed to supply drainage plans to farmers. Ninety-eight plans were furnished.

*Tobacco:* A plot to demonstrate tobacco culture is conducted at St. Cesaire, Rouville County, where a building for curing has been provided.

*Dairying:* The province is divided into fifty districts for inspection and instruction purposes, and an inspector has been provided for each. Salaries and expenses are wholly met by the department. Of the cost of the work, \$12,458.71 was provided by the Subsidy.

*Bee-keeping.*—From the Federal subsidy the sum of \$8,000 was expended in connection with apiary inspection and demonstration, particularly as regards the treatment of foul-brood.



*Maple Products.*—The province makes a specialty of this industry. A circular issued by the department states that the yield of the sugar bushes is greater in value to the province than the yield of its orchards. According to the census figures, in 1910 the value of the yield of sugar and syrup was \$1,680,393, while the value of the fruit crop was \$1,469,537.

Three sugar-making schools are operated by the provincial department, at Beauceville, Ste. Louise and La Minerve respectively. A number of improvements were made in the school buildings in the summer of 1914 with a view to increasing their efficiency. A course is given at each school, and following is a statement of attendance and operation during the spring season of 1915:—

	Beauceville, Beauce.	Ste. Louise, L'Islet.	La Minerve, Labelle.
Number of trees... ..	3,000	4,000	3,000
Regular students... ..	3	12	4
Visitors... ..	247	605	35
Products—			
Syrup, gallons... ..	330	407	280
Sugar, pounds... ..	216	400	65
Sugar wax, pounds... ..	119	400	10

The department issued a circular during the year on “The Maple Sugar and Syrup Industry.” Demonstrations were given at six factories in Portneuf County, which is remote from the schools, the total attendance being 450. One of the short course lecturers visits sugar houses as opportunity offers and gives information on improved methods and products. Lectures were also given at the convention of the Pure Maple Sugar and Syrup Co-operative Association, held in Beauce County in the summer of 1914. This association has made arrangements with the Quebec Cheese-makers’ Co-operative Association to handle its products through their Montreal warehouse. Other co-operative associations have been invited to contribute their products. These will be graded by an officer of the department and sold according to quality, and not at an arbitrary trade price, as is already done in the case of dairy products, poultry and cured meats. A law to protect producer and consumer against adulteration has been placed on the statute book. By these means it is hoped that the productiveness of the industry will be greatly increased. The expense of maintaining and conducting the schools is met by the grant.

The Maple Sugar and Syrup Co-operative Agricultural Association was organized at Waterloo, Que., on January 9, 1913. Mr. Jos. H. Lefebvre, of Waterloo, Que., is the secretary. In 1914-15 the association received a grant of \$400 from the province of Quebec. In 1910, according to the census, the provincial output was 9,427,694 pounds of sugar and 984,282 gallons of syrup. Beauce, Shefford and Browne were the largest producers, having a total of 4,740,114 pounds of sugar and syrup to their credit, this being 26 per cent of the entire provincial output. The three counties in which the schools are located produced as follows in 1910:—

	Sugar and Syrup.
Beauceville, Beauce Co... ..	Lb. 2,109,978
Ste. Louise, L'Islet Co... ..	“ 531,093
La Minerve, Labelle Co... ..	“ 288,089



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## FEDERAL SUBSIDY OF 1914-15.

SUMMARY FINANCIAL STATEMENT FROM APRIL 1, 1914, TO MARCH 31, 1915.

Section No.	Classification.	Grant, 1914-1915.	Expended to Mar. 31, 1915.	Balance Unexpended, Mar. 31, 1915
		\$ cts.	\$ cts.	\$ [cts.
1	Poultry.....	16,000 00	6,118 66	9,881 34
2	Arboriculture—Fruit growing.....	20,000 00	19,000 00	1,000 00
3	Bacon Industry.....	9,000 00	5,883 46	3,116 54
4	Schools of Agriculture.....	60,000 00	41,309 53	18,690 47
5	Agricultural teaching in Academies, Rural Schools and Normal Schools.....	7,000 00	3,792 71	3,207 29
6	District Representatives.....	12,000 00	3,406 89	8,593 11
7	Experimental Union.....	2,000 00	500 00	1,500 00
8	Alfalfa and Clover.....	2,000 00	1,999 97	0 03
9	Seed Selection.....	4,000 00	2,001 01	1,998 99
10	Bee-keeping.....	8,000 00	8,000 00	
11	Tobacco.....	3,000 00	2,433 22	566 78
12	Dairying.....	17,000 00	12,458 71	4,541 29
13	Drainage.....	8,000 00	1,043 62	6,956 38
14	Domestic Science.....	10,000 00	6,050 33	3,949 67
15	Maple Sugar.....	3,000 00	2,336 44	663 56
16	Conferences, Publications, etc.....	6,409 16	5,485 50	923 66
	Totals.....	187,409 16	121,820 05	65,589 11

### DETAILS OF EXPENDITURE—APRIL 1, 1914, TO MARCH 31, 1915.

1.—Poultry.

Grant.. . . . .	\$ 16,000 00	
Expended to March 31, 1915.. . . . .		\$ 6,118 66
Balance unexpended March 31, 1915.. . . . .		9,881 34
Total.. . . . .	\$ 16,000 00	\$ 16,000 00

Rev. Bro. Liguori, Provincial Superintendent of Poultry, salary and expenses.. . . .	\$	784	32
Leon Picard, Assistant Provincial Superintendent of Poultry, salary and expenses.. . . .		725	00
J. D. Barbeau, Assistant Provincial Superintendent of Poultry, salary and expenses.. . . .		226	50
Tel. Roy, Instructor, salary and expenses.. . . .		179	10
J. G. Morgan, " " " " " " " "		641	00
Raoul Dumaine, " " " " " " " "		552	15
Jean Charbonneau, " " " " " " " "		187	36
Jean Petraz, " " " " " " " "		263	82
L. Arscott, " " " " " " " "		86	85
Arh. Chabot, expenses.. . . .		20	45
Rev. J. B. A. Allaire, Speaker at Conferences, expenses.. . . .		221	35
Rev. Fr. Liguori, expenses re exhibitions.. . . .		250	52
Oka Institute, re School Inspectors' short courses.. . . .		120	00
Publications, etc.. . . . .		165	73
Poultry station plants, salary and disbursements of Superintendents.. . . .		1,207	31
Foultry station plants for equipment.. . . .		329	73
Model poultry plant, Normal School, Montreal.. . . .		97	62
Miscellaneous.. . . . .		59	85
Total.. . . .	\$	6,118	66

2.—*Fruit.*

Grant.. . . . .	\$ 20,000 00	
Expended to March 31, 1915.. . . . .	.....	\$ 19,000 00
Balance unexpended March 31, 1915.. . . . .	.....	1,000 00
	<hr/>	<hr/>
Total.. . . . .	\$ 20,000 00	\$ 20,000 00



2.—Fruit—Continued.

Fruits Division—	
Solyne Roy, Chief Arboriculturist, expenses.. . . .	\$ 527 97
J. H. Lavoie, Assistant “ “ . . . . .	383 43
Peter Reid, Superintendent of Demonstration Orchards, salary and expenses.. . . .	651 40
L'Abbe V. A. Huard, Provincial Entomologist, salary and expenses.. . . .	589 20
D. J. Wood, Expert in Mfg. of Conserves, etc., salary and expenses.. . . .	1,604 35
Instructors and Lecturers—	
A. LaBel, Arboriculture, salary and expenses.. . . .	869 02
Phil. Roy, “ “ “ . . . . .	204 43
L. J. A. Dupuis, “ “ “ . . . . .	45 25
Phil. Hamel, salary and expenses.. . . .	615 55
Tel. Roy, “ “ “ . . . . .	24 10
Rev. Pere Leopold, “ “ “ . . . . .	51 58
Adalbert Francoeur, “ “ “ . . . . .	12 75
Alex. Piette, “ “ “ . . . . .	96 15
F. X. Josselin, salary and expenses, and fruit trees for stations.	260 64
Art. Fortin, salary and expenses.. . . . \$32 00	
E. Gagnon, “ “ “ . . . . . 22 35	
Emile Roy, “ “ “ . . . . . 46 84	
G. Reynaud, “ “ “ . . . . . 11 20	
Jos. Lagace, “ “ “ . . . . . 35 75	
J. M. Talbot, “ “ “ . . . . . 77 67	
F. Letourneau, “ “ “ . . . . . 23 00	
M. A. P. Hamel, “ “ “ . . . . . 25 30	
	284 11
Assistant Instructors. various small sums for salary and expenses.. . . .	278 48
Fruit Stations—	
Various small grants and contributions for drainage, trees, etc.	1,713 05
Fruit Experiment Stations—	
Fruit trees, spraying outfits and materials, implements, drainage work, library books, etc.. . . . .	2,907 18
School of Agriculture—	
Ste. Anne de la Pocatière, buildings.. . . .	526 17
Oka Institute, grant.. . . .	195 00
“ “ “ towards machine for shelling green peas..	135 00
Periodicals and subscriptions.. . . .	1,548 14
5,000 Fruit Culture.. . . . \$ 1,250 00	
Various items.. . . . 298 14	
Exhibitions at Quebec and Sherbrooke.. . . .	439 40
Demonstrations and lectures in handling fruit, etc., including purchase of two sorting machines and one capping machine, machines for manufacture of conserves.. . . .	3,917 10
Fruits Branch—	
Furniture and miscellaneous.. . . .	282 15
Miscellaneous.. . . .	347 39
Total.. . . .	\$ 19,000 00

3.—Bacon Industry.

Grant.. . . .	\$ 9,000 00	
Expended to March 31, 1915.. . . .		\$ 5,883 46
Balance unexpended March 31, 1915.. . . .		3,116 54
Total.. . . .	\$ 9,000 00	\$ 9,000 00
A. Hansen, Provincial Bacon Expert, salary and expenses, November to March.. . . .	\$ 1,477 25	
O. Garneau, Superintendent Abattoir and Bacon industry at Agricultural Schools, salary and disbursements.. . . .	2,343 51	
St. Valier Abattoir, various.. . . .	43 97	
A. C. St. Pierre, Quebec, Manager at St. Valier, salary and expenses.. . . .	328 45	
J. H. Charles, hon. and expenses re organization co-operative abattoir.. . . .	158 80	
Art. Perrault, hon., and expenses re organization co-operative abattoir.. . . .	91 00	
Employers Liability Insurance.. . . .	139 60	
Publications “Porc à Bacon” . . . . .	1,220 32	
Incidentals.. . . .	89 56	
Total.. . . .	\$ 5,883 46	



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4.—Schools of Agriculture.

Grant.. . . . .	\$ 60,000 00	
Expended to March 31, 1915.. . . . .		\$ 41,309 53
Balance unexpended March 31, 1915.. . . . .		18,690 47
Total.. . . . .	\$ 60,000 00	\$ 60,000 00
Oka Institute, grant.. . . . .		\$ 18,000 00
Macdonald College, grant.. . . . .		10,000 00
Ste. Anne de la Pocatière, grant.. . . . .		12,000 00
" " board allowance.. . . . .		709 53
Orphelinat Agricole de Vauvert, grant.. . . . .		600 00
Total.. . . . .		\$ 41,309 53

Subsequent to March 31, 1915, and in accordance with record of September 10, 1915, the balance of \$18,690.47 had been paid over as follows:—

Oka Institute.. . . . .	\$ 2,910 00
Macdonald College.. . . . .	10,000 00
Ste. Anne de la Pocatière, grant.. . . . .	4,000 00
" " students' board allowance.. . . . .	1,380 47
Orphelinat Agricole de Vauvert.. . . . .	500 00
Total.. . . . .	\$ 18,690 47

For details of expenditure, see page 51.

5.—Agricultural Teaching in Academies—Rural and Normal Schools.

Grant.. . . . .	\$ 7,000 00	
Expended to March 31, 1915.. . . . .		\$ 3,792 71
Balance unexpended March 31, 1915.. . . . .		3,207 29
Total.. . . . .	\$ 7,000 00	\$ 7,000 00
Honorarium for services as lecturers to 21 school inspectors.. . .	\$ 2,450 00	
Rev. A. Michaud, Lecturer, salary and expenses.. . . . .	617 30	
Rev. Abbe Ol. Martin, Provincial Inspector, expenses.. . . . .	133 32	
J. Chas. Magnan, District representative, expenses as lecturer..	97 84	
Oka Institute—		
Special courses for school inspectors.. . . . .	349 90	
Circulars.. . . . .	93 50	
Seeds.. . . . .	31 85	
Incidentals.. . . . .	19 00	
Total.. . . . .	\$ 3,792 71	

6.—District Representatives.

Grant.. . . . .	\$ 12,000 00	
Expended to March 31, 1915.. . . . .		\$ 3,406 89
Balance unexpended March 31, 1915.. . . . .		8,593 11
Total.. . . . .	\$ 12,000 00	\$ 12,000 00
District Representatives—		
R. A. Rousseau, salary and disbursements.. . . . .	\$ 586 42	
J. C. Magnan, " .. . . . .	676 56	
H. Cloutier, " .. . . . .	492 24	
A. Raymond, " .. . . . .	541 89	
J. M. Leclair, " .. . . . .	481 58	
A. Desilets, " .. . . . .	271 24	
Alp. Roy, " .. . . . .	30 96	
Assistants—		
L. Phil. Gauvin, salary and disbursements.. . . . .	35 00	
J. S. Siniard, " .. . . . .	260 75	
Incidentals.. . . . .	30 25	
Total.. . . . .	\$ 3,406 89	



7.—*Experimental Union*

Grant.. . . . .	\$ 2,000 00	
Expended to March 31, 1915.. . . . .	.....	\$ 500 00
Balance unexpended March 31, 1915.. . . . .	.....	1,500 00
Total.. . . . .	\$ 2,000 00	\$ 2,000 00
Grant to Union.. . . . .		\$ 500 00

8.—*Clover and Alfalfa.*

Grant.. . . . .	\$ 2,000 00	
Expended to March 31, 1915.. . . . .	.....	\$ 1,999 97
Balance unexpended March 31, 1915.. . . . .	.....	0 03
Total.. . . . .	\$ 2,000 00	\$ 2,000 00
P. X. St. Pierre, Conductor of Experiments, salary and disbursements.. . . . .		\$ 251 70
Mgr. Francoeur, Conductor of Experiments, salary and disbursements.. . . . .		234 69
Jos. Barbeau, travelling expenses.. . . . .		27 74
Leandre Francoeur, salary and disbursements.. . . . .		206 94
Leo. Brown, Instructor, expenses.. . . . .		339 25
Disbursements <i>re</i> plots, including rental.. . . . .		782 49
Incidentals.. . . . .		57 16
Total.. . . . .		\$ 1,999 97

9.—*Seed Selection.*

Grant.. . . . .	\$ 4,000 00	
Expended to March 31, 1915.. . . . .	.....	\$ 2,001 01
Balance unexpended March 31, 1915.. . . . .	.....	1,998 99
Total.. . . . .	\$ 4,000 00	\$ 4,000 00
L. Lavallée, salary and disbursements.. . . . .		\$ 403 65
Orens Garneau, " .. . . . .		136 64
Jos. Barbeau, " .. . . . .		192 27
L. E. Kronstrom, " .. . . . .		207 48
J. Art. Paquet, " .. . . . .		150 00
L. Francoeur, " .. . . . .		173 66
Ovila Roberge, " .. . . . .		40 00
Materials, equipment, publications and disbursements to sundry persons.. . . . .		697 31
Total.. . . . .		\$ 2,001 01

10.—*Bee-keeping.*

Grant.. . . . .	\$ 8,000 00	
Expended to March 31, 1915.. . . . .	.....	\$ 8,000 00
Total.. . . . .	\$ 8,000 00	\$ 8,000 00
Inspectors, instructors, lecturers—		
Dr. L. J. Comire, salary and disbursements.. . . . .		\$ 1,066 55
Elzeard Girard " .. . . . .		1,021 60
Bernard Brissette, " .. . . . .		1,016 70
A. A. Comire, " .. . . . .		1,072 47
Luc. Dupuis, " .. . . . .		792 55
Hector Béland, " .. . . . .		509 86
Assistants—		
O. Comire, " .. . . . .		299 10
J. L. A. Dupuis, " .. . . . .		145 35
Nap. Piette, " .. . . . .		256 22
Edm. Brissette, " .. . . . .		358 25
Donat Rochefort, " .. . . . .		393 20
J. H. Comire, " .. . . . .		299 25
P. Aug. Dupuis, Director, fruit stations.. . . . .		456 90
Sundry payments.. . . . .		12 00
Total.. . . . .		\$ 8,000 00



Jos. Gagné, instructor, salary.. . . . .	375 00
Land and Building for tobacco-curing at St. Cesaire.. . . .	1,771 61
Field disbursements.. . . . .	286 61
	<hr/>
Total.. . . . .	\$ 2,433 22

### Inspectors, Cheese Factories and Creameries—

### 13.—Underdrainage.

14.—*Domestic Science.*

Grant.. . . . .	\$ 10,000 00	
Expended to March 31, 1915.. . . . .	.....	\$ 6,050 33
Balance unexpended March 31, 1915.. . . . .	.....	3,949 67
	<hr/>	<hr/>
Total.. . . . .	\$ 10,000 00	\$ 10,000 00







SESSIONAL PAPER No. 15c

# AGRICULTURAL COLLEGE AND SCHOOLS.

The following are the detailed statements of expenditures of the full grants paid to the three institutions for the college year 1914-15.

## MACDONALD COLLEGE.

### STATEMENT OF RECEIPTS AND DISBURSEMENTS FOR YEAR ENDING MARCH 31, 1915.

Debit balance, year ending March 31, 1914.. . . . .	\$	107 89
Disbursements—		
Animal husbandry.. . . . .	\$	2,672 72
Bacteriology.. . . . .		331 95
Biology.. . . . .		668 53
Cereal husbandry.. . . . .		2,154 83
Chemistry.. . . . .		886 69
Horticulture.. . . . .		1,938 44
Household science.. . . . .		1,418 61
Physics.. . . . .		831 75
Poultry.. . . . .		1,880 62
Veterinary science.. . . . .		1,206 61
General.. . . . .		3,932 80
Short courses.. . . . .		651 21
		<u>18,574 76</u>
Total.. . . . .	\$	<u>18,682 65</u>
Receipts—		
April 30, 1914, Department of Agriculture.. . .	\$	10,000 00
August 14, 1914.. . . . .		5,000 00
November 9, 1914.. . . . .		5,000 00
		<u>\$ 20,000 00</u>
Balance credit.. . . . .	\$	<u>1,317 35</u>

## LIST OF STAFF EMPLOYED BY MACDONALD COLLEGE UNDER THE AGRICULTURAL INSPECTION ACT.

Paul A. Boving, Cand. Phil. in charge of Root crop investigation.	\$	2,000 00
A. Savage, B.S.A., D.V.M., Veterinarian.. . . . .		1,650 00
A. A. Macmillan, B.S.A., in charge of Sheep husbandry.. . . .		1,500 00
E. M. Duporte, B.S.A., M.Sc., Biology.. . . . .		1,000 00
J. V. Dupre, A.C.G.I., Physics.. . . . .		800 00
A. McLaurin, B.S.A., Animal husbandry.. . . . .		1,040 00
G. J. VanZoeren, Chemistry (A.B.).. . . . .		800 00
*E. G. Wood, Demonstrator, Huntingdon.. . . . .		250 00
*W. G. Sutton, Demonstrator, Shawville.. . . . .		275 00
*T. H. Biggar, Demonstrator, Richmond.. . . . .		275 00
*G. C. Hay, Demonstrator, Cowansville.. . . . .		275 00
*G. C. Boyce, B.S.A., Demonstrator, Ayer's Cliff.. . . . .		300 00
*J. H. King, B.S.A., Cookshire.. . . . .		300 00
*L. C. McQuat, B.S.A., Lennoxville.. . . . .		300 00
*L. J. Westbrook, B.S.A., Shawville.. . . . .		300 00
Miss Frederica Campbell, Demonstrator, Homemakers' Clubs, Que.		900 00
W. Graham, Shepherd.. . . . .		540 00
Total.. . . . .	\$	<u>12,505 00</u>

## SCHOOL OF AGRICULTURE—STE. ANNE DE LA POCATIÈRE.

	Salary.
M. P. Boulet (assistant chef de pratique).. . . . .	\$ 600 00
M. l'abbé A. Letourneau.. . . . .	400 00
M. l'abbé E. Bernier.. . . . .	300 00

\*Summer only.



SCHOOL OF AGRICULTURE—STE. ANNE DE LA POCATIÈRE.—Continued.

M. F. N. Savoie.. . . . .	\$	1,000	00
M. Georges Bouchard.. . . . .		500	00
M. Albert Jalbert (Fruit Growing).. . . . .		500	00
M. Orens Garneau (Bacon).. . . . .		262	48
M. F. Dionne (Bacon).. . . . .		150	85
M. L. Alfred Gosselin (Horticulture).. . . . .		400	00
M. E. Lizolte (Dairying).. . . . .		500	00
	\$	4,613	33
Towards board of pupils.. . . . .		1,230	93
Towards wages of servants.. . . . .		550	00
Expenses of following branches—			
Fruit growing.. . . . .	\$	60	00
Horticulture.. . . . .		100	00
Bacon industry.. . . . .		786	67
Dairying.. . . . .		740	00
Field work.. . . . .		600	00
Apiculture.. . . . .		200	00
Poultry.. . . . .		400	00
Conserves.. . . . .		300	00
		3,186	67
Short courses.. . . . .		405	50
Library, books, magazines, etc.. . . . .		303	57
Demonstration, fields.. . . . .		1,550	00
Chemical laboratory.. . . . .		150	00
Travelling expenses.. . . . .		100	00
Enlargement of main building.. . . . .		6,000	00
Total.. . . . .	\$	18,090	00

OKA AGRICULTURAL INSTITUTE.

	Salaries (in whole of in part).		
Chef de pratique.. . . . .	\$	1,000	00
M. H. Nagant (chemistry).. . . . .		800	00
F. Queva (Chemistry and Microbiology) . . . . .		670	00
M. J. Dollo (Sciences).. . . . .		670	00
R. P. Maur (Génie rural).. . . . .		800	00
M. A. Dauth (Veterinary).. . . . .		300	00
R. P. Athanese (Horticulture).. . . . .		250	00
R. P. Maur (Bee-keeping).. . . . .		250	00
R. P. Leopold.. . . . .		378	23
R. F. Roch.. . . . .		300	00
Aumonier.. . . . .		400	00
M. P. Roy.. . . . .		300	00
M. F. Letourneau (Entomology).. . . . .		300	00
M. M. Lavoie (Drainage).. . . . .		115	00
M. J. E. Ponton (May and June).. . . . .		273	50
M. J. Arscott (Horticulture).. . . . .		200	00
R. P. Honore (Fruit Growing).. . . . .		200	00
M. A. Lafrance (Fruit Growing).. . . . .		300	00
R. F. Wilfrid (Poultry).. . . . .		500	00
R. P. Directeur.. . . . .		800	00
M. J. Payer (Secretary).. . . . .		800	00
Other instructors.. . . . .		438	23
Total.. . . . .	\$	10,044	96
Expenses of following branches—			
Poultry.. . . . .	\$	100	00
Bee-keeping.. . . . .		100	00
Fruit growing.. . . . .		200	00
Conserves.. . . . .		100	00
		500	00
Short courses.. . . . .		1,168	28
Library.. . . . .		90	00
Travelling and miscellaneous.. . . . .		206	76
Experimental Field.. . . . .		1,100	00
Towards board of pupils.. . . . .		1,800	00
Towards house expenses.. . . . .		1,000	00
Enlargement of College building.. . . . .		5,000	00
Total.. . . . .	\$	20,910	00



SESSIONAL PAPER No. 15c

FEDERAL SUBSIDY OF 1913-14.

SUMMARY FINANCIAL STATEMENT TO MARCH 31, 1915.

Section No.	Classification.	Grant, 1913-1914.	Expended to Mar. 31, 1915.
		\$ cts.	\$ cts.
1	Fruit Culture.....	15,919 24	15,919 24
2	Bacon Industry.....	10,000 00	10,000 00
3	Poultry-keeping.....	17,000 00	17,000 00
4	Schools of Agriculture.....	59,850 00	59,850 00
5	Agricultural Instruction in Schools.....	3,000 00	3,000 00
6	District Representatives.....	10,000 00	10,000 00
7	Experimental Union.....	2,000 00	2,000 00
8	Demonstrations in Clover and Alfalfa.....	4,039 32	4,039 32
9	Seed and Field Crops.....	1,190 54	1,190 54
10	Apiculture.....	5,000 00	5,000 00
11	Tobacco Industry.....	3,000 00	3,000 00
12	Dairy Industry.....	7,000 00	7,000 00
13	Drainage.....	8,000 00	8,000 00
14	Domestic Science.....	7,000 00	7,000 00
15	Maple Sugar Industry.....	4,000 90	4,000 90
16	Lectures and Demonstration Train.....	2,482 40	2,492 40
	Totals.....	\$159,482 40	\$159,482 40

DETAILS OF EXPENDITURE OF SUBSIDY OF 1913-14.

1.--Fruit Culture.

Grant, 1913-14.....	\$ 15,919 24	
Expended to March 31, 1915.....		\$ 15,919 24
Total.....	\$ 15,919 24	\$ 15,919 24
L'Abbé V. A. Huard, Prov. Entomologist, salary.....		
J. H. Lavoie, Chief Fruit Branch, salary and expenses.....		\$ 944 00
P. Reid, Supt. Demonstration orchards, salary and expenses.....		498 60
Solyne Roy, Chief Arboriculturist, salary and expenses.....		1,035 66
Jos. Barbeau, Commissioner, salary and expenses.....		336 30
Instructors, lecturers, salary and expenses—		
Alf. Label.....	\$ 997 85	
Phil. Roy.....	235 31	
Phil. Hamel.....	793 40	
D. J. Wood.....	305 60	
J. M. Talbot.....	218 84	
F. X. Josselin.....	464 80	
M. A. P. Hamel.....	275 35	
Sundry persons, services and expenses.....	944 84	
		4,235 99
		\$ 7,385 65
Fruit trees, etc.....		1,593 73
5,000 "Fruit Culture".....		1,517 61
Printing.....		442 52
Furniture.....		139 98
Exhibits.....		652 68
Leases, labour, supplies, equipment, incidentals, allowances, etc.		4,187 07
Total.....		\$ 15,919 24



*2.—Bacon Industry.*

Grant, 1913-14.. . . . .	\$ 10,000 00	
Expended to March 31, 1915.. . . . .		\$ 10,000 00
Total.. . . . .	\$ 10,000 00	\$ 10,000 00
Prof. A. Hansen, salary 7 months.. . . . .		\$ 1,750 00
“ expenses.. . . . .		296 72
A. C. St. Pierre, Abattoir manager, salary 14 months.. . . . .		1,050 00
“ “ expenses.. . . . .		1,580 35
Abattoir at St. Valier—		
Purchase of lot and plans.. . . . .		305 28
Construction, Jos. Gosselin.. . . . .		4,019 43
Two pickle-pumps, Oka and Ste. Anne de la Pocatière.. . . . .		222 96
Miscellaneous.. . . . .		775 26
Total.. . . . .		\$ 10,000 00

*3.—Poultry Work.*

Grant, 1913-14.. . . . .	\$ 17,000 00	
Expended to March 31, 1915.. . . . .		\$ 17,000 00
Total.. . . . .	\$ 17,000 00	\$ 17,000 00
Poultry department Oka Institute.. . . . .		\$ 3,298 11
Rev. Brother Liquori, Provincial Supt. of Poultry, salary and ex- penses.. . . . .		1,501 57
Leon Picard, Asst. Provincial Supt. of Poultry, salary and ex- penses.. . . . .		642 40
J. G. Morgan, Montreal.. . . . .		1,303 93
Four travelling instructors.. . . . .		667 63
Bulletins and printing.. . . . .		2,274 45
Macdonald College, egg distribution.. . . . .		250 00
Exhibitions, Quebec and Sherbrooke.. . . . .		906 86
Poultry demonstrations stations.. . . . .		3,422 85
Incubators (4).. . . . .		964 00
Miscellaneous expenses.. . . . .		1,748 20
Total.. . . . .		\$ 17,000 00

*4.—Schools and Colleges of Agriculture.*

Grant, 1913-14.. . . . .	\$ 59,850 00	
Expended to March 31, 1915.. . . . .		\$ 59,850 00
Total.. . . . .	\$ 59,850 00	\$ 59,850 00
Macdonald College.. . . . .		\$ 20,000 00
Oka Agricultural Institute.. . . . .		19,500 00
Agricultural School of Ste. Anne de la Pocatière.. . . . .		19,250 60
Orphanage, Notre Dame des Champs, Paspébiac.. . . . .		400 00
Agricultural Orphanage of St. Joseph at Vauvert.. . . . .		700 00
Total.. . . . .		\$ 59,850 00

*5.—Agricultural Instruction in Academies.*

Grant, 1913-14.. . . . .	\$ 3,000 00	
Expended to March 31, 1915.. . . . .		\$ 3,000 00
Total.. . . . .	\$ 3,000 00	\$ 3,000 00
Travelling expenses of school inspectors.. . . . .		\$ 975 40
O. E. Delaire, expenses.. . . . .		100 00
Rev. A. Michaud, salary and expenses.. . . . .		589 30
Rev. Abbe O. Martin, salary and expenses.. . . . .		128 08
Charts, bulletins, etc.. . . . .		615 42
Miscellaneous.. . . . .		592 00
Total.. . . . .		\$ 3,000 00



SESSIONAL PAPER No. 15c

6.—*District Representatives.*

Grant, 1913-14.. . . . .	\$ 10,000 00	
Expended to March 31, 1915.. . . . .		\$ 10,000 00
Total.. . . . .	\$ 10,000 00	\$ 10,000 00

Travelling expenses, salaries, office expenses of district representatives.. . . . .	\$ 9,436 77	
Furniture and equipment.. . . . .	460 15	
Poultry appliances for school inspectors.. . . . .	103 08	
Total.. . . . .	\$ 10,000 00	

7.—*Experimental Union.*

Grant, 1913-14.. . . . .	\$ 2,000 00	
Expended to March 31, 1915.. . . . .		\$ 2,000 00
Total.. . . . .	\$ 2,000 00	\$ 2,000 00

Grant to Experimental Union, Oka.. . . . .	\$ 2,000 00	
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8.—*Alfalfa and Clover Demonstrations.*

Grant, 1913-14.. . . . .	\$ 4,039 32	
Expended to March 31, 1915.. . . . .		\$ 4,039 32
Total.. . . . .	\$ 4,039 32	\$ 4,039 32

Mag. Francoeur, Conductor, salary and disbursements.. . . . .	\$ 1,071 61	
F. X. St. Pierre, Assistant Conductor, salary and disbursements.. . . . .	252 00	
Leandre Francoeur, Conductor, salary and disbursements.. . . . .	211 10	
Jos. Barbeau, Commissioner, salary.. . . . .	92 24	
Leo Brown, Instructor, expenses.. . . . .	852 05	
	\$ 2,479 00	
Supplies, furnishings and incidentals.. . . . .	361 38	
Seed.. . . . .	321 13	
Typewriter.. . . . .	130 00	
Rental of plots.. . . . .	482 81	
Allowance to "regisseurs".. . . . .	265 00	
Total.. . . . .	\$ 4,039 32	

9.—*Seed Selection and Field Crop Demonstrations.*

Grant, 1913-14.. . . . .	\$ 1,190 54	
Expended to March 31, 1915.. . . . .		\$ 1,190 54
Total.. . . . .	\$ 1,190 54	\$ 1,190 54

Jos. Barbeau, Commissioner, salary.. . . . .	\$ 242 50	
L. Lavallee, salary.. . . . .	133 34	
Charles Laricheliere, salary.. . . . .	25 00	
Expenses, sundry officers.. . . . .	79 70	
Rent.. . . . .	150 00	
One "Crible Separateur," freight and duty.. . . . .	297 00	
Ten thousand copies "Culture des Cereales".. . . . .	263 00	
Total.. . . . .	\$ 1,190 54	

10.—*Bee-keeping.*

Grant, 1913-14.. . . . .	\$ 5,000 00	
Expended to March 31, 1915.. . . . .		\$ 5,000 00
Total.. . . . .	\$ 5,000 00	\$ 5,000 00



10.—Bee-keeping—Continued.

Salaries and expenses, Instructors and Foul-brood Inspectors.—		
L. J. Comire, Yamaska West, Yamaska.. . . .	\$	917 34
J. H. Comire, Montreal.. . . .		297 50
L. J. A. Dupuis, village des Aulnaies, L'Islet.. . . .		698 35
D. Rochefort, Becancour, Nicolet.. . . .		192 50
Elz. Girard, St. Monique, Nicolet.. . . .		516 50
P. A. Dupuis, Village des Aulnaies, L'Islet.. . . .		312 90
O. Comire, St. Francois du Lac, Yamaska.. . . .		209 90
Hector Beland, Louiseville, Maskinonge.. . . .		996 26
L. F. Beland, Grand Pre, Maskinonge.. . . .		334 75
Edm. Brissette, St. Barthelemi, Berthier.. . . .		364 00
Exhibitions.. . . .		150 00
Total.. . . .		\$ 5,000 00

11.—Tobacco Industry.

Grant, 1913-14.. . . .	\$	3,000 00	
Expended to March 31, 1915.. . . .			\$ 3,000 00
Total.. . . .		\$ 3,000 00	\$ 3,000 00
Exhibition expenses.. . . .	\$	502 36	
Bulletins, "La Culture du Tabac".. . . .		2,000 00	
Jos. Gagne, Instructor, salary, May, June, July, 1914.. . . .		225 00	
Miscellaneous.. . . .		272 64	
Total.. . . .			\$ 3,000 00

12.—Dairying.

Grant, 1913-14.. . . .	\$	7,000 00	
Expended to March 31, 1915.. . . .			\$ 7,000 00
Total.. . . .		\$ 7,000 00	\$ 7,000 00
Salaries and expenses of Inspectors and Lecturers.. . . .	\$	6,917 80	
Allowances to factory-managers attending Short Courses.. . . .		29 12	
Incidentals.. . . .		53 08	
Total.. . . .			\$ 7,000 00

13.—Underdrainage.

Grant, 1913-14.. . . .	\$	8,000 00	
Expended to March 31, 1915.. . . .			\$ 8,000 00
Total.. . . .		\$ 8,000 00	\$ 8,000 00
Jos. Barbeau, Commissioner, salary and expenses.. . . .	\$	569 00	
John Drolet, Instructor, " .. . . .		576 44	
Wilfrid Giroux, Instructor, " .. . . .		651 77	
C. J. Lynde, Superintendent, " .. . . .		353 10	
F. N. Savoie, Superintendent, " .. . . .		488 98	
Machine operators, wages and expenses.. . . .		224 09	
Soil Surveys—			
Nine students, five months at \$50 and expenses.. . . .		3,787 40	
Repairs, transportation of machines, etc.. . . .		613 51	
Printing and advertising.. . . .		128 04	
Ten thousand copies "Practical Draining".. . . .		607 67	
Total.. . . .			\$ 8,000 00

14.—Domestic Science.

Grant, 1913-14.. . . .	\$	7,000 00	
Expended to March 31, 1915.. . . .			\$ 7,000 00
Total.. . . .		\$ 7,000 00	\$ 7,000 00



SESSIONAL PAPER No. 15c

14.—Domestic Science—Continued.

Teachers' Courses, St. Pascal and Roberval, 1913-14.. . . .	\$	500	00
Grants of \$300 to 4 schools in 1912-13.. . . .	\$	1,200	00
Grants of \$300 to 16 schools in 1913-14.. . . .		4,800	00
Grant of \$100 to 1 school in 1913-14.. . . .		100	00
		6,100	00
Travelling expenses, school inspectors.. . . .		241	45
Printing and pamphlets.. . . .		127	03
Miscellaneous.. . . .		31	52
Total.. . . .	\$	7,000	00

15.—Maple Sugar Industry.

Grant, 1913-14.. . . .	\$	4,000	90
Expended to March 31, 1915.. . . .	\$	4,000	90
Total.. . . .	\$	4,000	90
Beauceville school.. . . .	\$	1,772	75
St. Louise school.. . . .		1,635	10
La Minerve school.. . . .		548	05
Miscellaneous.. . . .		45	00
Total.. . . .	\$	4,000	90

16.—Lectures and Demonstration Train.

Grant, 1913-14.. . . .	\$	2,482	40
Expended to March 31, 1915.. . . .	\$	2,482	40
Total.. . . .	\$	2,482	40
Expended in providing and installing exhibits by Macdonald College, in printing and incidentals, and for travelling expenses of College Professors and others giving instruction..			
	\$	2,482	40

AGRICULTURAL AID GRANT, 1912.

SUMMARY FINANCIAL STATEMENT.

Section No.	Classification.	Grant.	Expended to June 30, 1913.	Expended subsequently.	Total.
		\$ cts.	\$ cts.	\$ cts.	\$ cts.
1	Fruit Culture.....	23,460 20	21,863 78	1,596 42	23,460 20
2	Bacon Industry.....	10,000 00	3,627 51	6,372 49	10,000 00
3	Poultry-Keeping.....	4,000 00	3,605 61	394 39	4,000 00
4	Poultry-Keeping, Co-operative subsidies....	10,000 00	8,893 92	1,106 08	10,000 00
5	Agricultural Colleges.....	20,000 00	18,374 97	1,625 03	20,000 00
6	Experimental Union.....	2,000 00	1,500 00	500 00	2,000 00
7	Live Stock (Importations).....	3,000 00	3,000 00		3,000 00
8	Clover and Alfalfa.....	15,539 80	13,961 94	1,577 86	15,539 80
9	Drainage.....	20,000 00	11,125 39	8,874 61	20,000 00
10	Chemical Laboratories.....	10,000 00	6,815 16	3,184 84	10,000 00
11	Dairy, Premiums and Inspection.....	3,500 00	1,376 55	2,123 45	3,500 00
12	Dairy Ass'n Provincial.....	2,000 00	2,000 00		2,000 00
13	Tobacco.....	10,000 00	9,896 35	103 65	10,000 00
14	Veterinary Instruction—Laboratory.....	3,000 00		3,000 00	3,000 00
15	Demonstration Trains and Lectures.....	2,982 40	2,962 41	19 99	2,982 40
	Totals ..	139,482 40	109,003 59	30,478 81	139,482 40



COMPARATIVE STATEMENT OF EXPENDITURE OF PROVINCIAL FUNDS FOR AGRICULTURAL PURPOSES FOR THE YEARS 1913, 1914, 1915 AND ESTIMATED EXPENDITURE FOR 1916.

Service.	1913 to June 30.	1914 to June 30.	1914-15 to June 30.	Estimated 1915-16 to June 30.
	\$ cts.	\$ cts.	\$ cts.	\$ cts.
Civil Government Salaries and Contingencies.....	41,533 34	45,220 96	45,500 00	45,600 00
Agricultural Schools.....	20,208 39	18,534 99	29,863 09	30,000 00
House-keeping Schools.....	10,000 00	18,500 00	10,290 29	16,000 00
Agricultural Societies.....	120,614 08	164,551 98	146,296 56	100,000 00
Farmers' Clubs or Agricultural Circles, including grant to S. Shore Railway.....	90,851 83	99,650 00	97,000 00	110,000 00
Council of Agriculture.....	4,529 03	3,665 83	2,787 99	3,000 00
Horticultural and Agricultural Societies, Montreal and Provincial.....	1,000 00	1,000 00	1,000 00	1,500 00
Veterinary Instruction.....	5,994 96	5,500 00	4,772 68	5,500 00
Dairying.....	74,441 50	76,000 00	67,676 14	98,410 00
Provincial Laboratory.....	2,000 00	1,540 24	2,000 00	2,000 00
Lectures on Agriculture.....	6,537 56	7,029 44	5,406 09	9,000 00
Fruit Growing.....	11,856 29	10,865 48	6,580 36	10,000 00
Poultry Raising.....	3,000 00	3,000 00	2,099 14	3,000 00
Journal of Agriculture.....	29,000 00	29,000 00	27,000 00	27,000 00
Agricultural Merit.....	4,000 00	2,607 65	3,270 38	3,500 00
Exhibitions.....	32,000 00	32,000 00	31,000 00	32,000 00
Miscellaneous.....	100 00	100 00	100 00	100 00
<i>School of Agriculture, Ste. Anne de la Pocatière.—</i>				
Towards construction.....	10,000 00			
Towards maintenance.....	10,000 00	10,000 00		
Totals.....	477,666 98	528,766 57	482,642 72	496,610 00



### OUTLINE OF WORK PERFORMED.

In the spring of 1915 the following college graduates were appointed: Lester V. Lohr, W. T. G. Wiener, H. F. Danielson, Nelson S. Smith, and W. J. Stone. Each is assigned a district for the summer months. Other representatives will be appointed as required and as suitable men become available.

15c—5



The soil at Rose Hill is a sandy loam with a light gravel subsoil, and as this type of land is not infrequently met with in the province, it has been deemed advisable to demonstrate a rotation suitable for it. Ten acres will be devoted to the production of seed of early types of field corn, and the balance to the growing of cereals.

The land on which the farms are located is in all cases leased under agreement with the owner (see page 97, Report 1914) except that of the Killarney Farm, which was purchased out of the federal grant at a cost of \$3,875. The charges against the appropriation include fencing and cost of work performed.

The College and Baldur Farms were the only ones fully seeded in 1914. The others were cleaned up and summer-fallowed ready for seeding in the spring of 1915.

*Alfalfa Plots.*—Twenty of these have been established, and form part of the demonstration farms. The object is not only to induce the sowing of alfalfa of the right varieties but to obtain a supply of home-grown seed. At Neepawa, the Grimm variety has proved entirely hardy.

*Demonstration Train.*—In order to carry the agricultural college instruction to the farmers who are unable to attend that institution, it has been the custom during the past few years to despatch Better-farming Specials in June and July over all railway lines in Manitoba. These trains are fully equipped for practical demonstrations and manned by members of the College staff. The Canadian Pacific train particularly appealed to young people with its moving pictures, home economics display, exhibits of birds and insects. An information bureau, where all questions relating to the College and its work were answered, was a feature. A large plaster model of the College and grounds attracted attention. A car of live stock was also included. The Canadian Northern special, while differing from the Canadian Pacific train in some respects, was equally interesting and complete, special features being made of farm machinery and mechanical equipment demonstrations, poultry demonstrations, and home economics demonstrations. In fact actual demonstration was strongly emphasized on this train and many working models were carried.

*Boys' and Girls' Clubs.*—These clubs were first organized under the Extension Service of the Agricultural College, which still assists in the movement. Potatoes, corn and poultry are raised from seed, and settings of eggs supplied, and independent fairs are held at which these and other articles, including woodwork, sewing, vegetables, grains and flowers, are exhibited. The enrolled membership in 1915 was 5,000. The organization is not confined to children in attendance at school, but all between the ages of ten and sixteen, inclusive, may take part.

The Club Fair at Roland was the first of more than forty of these fairs held in the autumn of 1914. The attendance on the second day was over 800, and it was a greater success in every way than the successful event of the previous year when the movement was inaugurated. Not only do these clubs prepare the next generation of farmers and home managers for their future duties, but they also have a direct influence upon the parents, who are taking a keen interest in the educational work.

One of the conditions imposed in organizing the clubs is that the work must be done on the home farm or garden, but much of the organization is done by the teachers, and practically every other interest in the district is behind the boys and girls in their farming operations and is ready to help them both in the matter of suggestions and making provision for attractive prize lists.

Each member knows all about the fine points not only of his own chickens, but of those belonging to his companions as well, and there are hundreds of separate pens throughout the province, and the juvenile owners of these pens are taking particular care that the strain is kept pure.

The impetus given to fodder-corn growing is most pronounced. It is seen growing now in all parts of the province, whereas a couple of years ago only a few patches



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were in evidence. To such an extent has it been grown and found satisfactory that the Engineering Department of the college is preparing plans for the construction of silos, as it is recognized that next year the demand will be particularly large in this respect. Last year the potato plots proved a splendid lesson in the advantage of cultivation for the conservation of moisture.

Previously, the girls were obliged to compete with the boys in these contests if they wished to take part at all, and they held their own to a remarkable degree, winning a great many prizes with their poultry and potatoes, and even in the pig-raising contest. This year, however, special contests in bread-making, sewing, canning and preserving have been added for the girls, and farm mechanics for the boys, making eight contests in which club members may engage.

The material supplied by the Department of Agriculture was as follows: One setting of pure bred eggs to one member of each family; ten pounds of Carman No. 1 potatoes to each member, a quarter pound of each of the following varieties of fodder corn, Northwestern Dent, Longfellow and Minnesota 13, a half pound each of beans and peas for the canning and preserving contests, plans for a dozen projects in farm mechanics, and notebooks in which a full account of the work done is kept.

From last year's winners a dozen boys were chosen as the nucleus of a junior Canadian seed growers' association. Sufficient second generation Marquis wheat was secured from Seager Wheeler's famous prize winning stock to seed one-third of an acre, and the Field Husbandry Department of the college has prepared careful instructions in handling not only this year's plot, but in summer fallowing for next year's crop, and it is probable that the methods suggested here will have a wider application on these farms.

Next year it is proposed to arrange for one acre contests of various kinds for the members of the clubs who reach a certain standard in this year's competitions, and to supply eggs only to the new clubs, as it is felt that this year's clubs will already have made a pretty good start in raising poultry and will have their own supplies.

In the majority of cases the club organizers are the principals of schools, but they declare that the extra work done by them in connection with the boys' and girls' clubs is more than made up for by the increased attendance and renewed interest taken by the pupils in their other work. The fact that these contests are carried on on the home farm has made the clubs the connecting link between the home and the school. It has led the parents to see that the teachers are interested in the children outside of school hours, and in turn the parents have become more interested in the work of the school in school hours. Wherever boys' and girls' clubs have been organized, the people are unanimous in saying that no movement has had a greater effect in arousing interest in better farming.

*School Fairs.*—In 1914, some thirty-five school fairs were held, including exhibits from 100 schools. There were entries from 2,500 children, and the attendance was estimated at 10,000. Some of these fairs are held under the direction of the boys' and girls' clubs, others under a Junior Agricultural Society, some under a committee of the teachers and trustees of the municipality, and others under the teachers and trustees of the individual school. In connection with some school fairs, sports were held during the day, and a concert in the evening.

*Home Economics.*—Nine new home economics societies and several hundred new members were added in 1914, bringing the membership up to 1,675. Much useful work has been done in placing unemployed girls, in introducing social improvements, in the creation and care of beauty spots in localities, and above all in making articles of comfort for the refugee and the wounded. The societies in fact have been very generally employed in Red Cross work. The work is assisted by a grant of 50 cents for each member up to twenty in number and 25 cents for every additional member. The Department also contributed 240 books to the travelling libraries of the societies. Four



of these libraries exist, each of which contains from twelve to fifteen books on home economics, which are kept in constant circulation between the different societies. The superintendent reports that progress is being made not only in educational work but in everything looking to the improvement of home and community conditions. Several societies took up the courses arranged in Home Nursing, Hygiene, Foods, Sewing and Laundry-work. Other special features were work in connection with the Better-farming Specials and short courses in Public schools. At the convention held in February, 1915, resolutions were passed urging medical inspection in schools throughout the province, and advocating increased attention to the teaching of agriculture and domestic science in the schools.

*Instruction in Farm Mechanics in Rural Schools.*—In this direction a beginning has been made by granting funds to rural schools for the purchase of blacksmith outfits. Such instruction is given as will enable boys to make repairs with the use of a small farm forge.

*Educational Work in Bee-keeping.*—Considerable interest is being shown in this industry with the re-organization of the Bee-keepers' Association and the appointment of a provincial apiarist in April, 1914. This officer, who is located at the College, conducts experiments, inspects apiaries, and gives lectures and demonstration. He will also introduce apiculture at the demonstration farms.

SUMMARY FINANCIAL STATEMENT, FEDERAL SUBSIDY OF 1914-15, FROM APRIL 1, 1914, TO MARCH 31, 1915.

Section No.	Classification.	Unexpended Balance Apr.1, 1914.	Grant 1914-15.	Total.	Expended to Mar. 31, 1915.	Unexpended Balances March 31, 1915.
		\$ cts.	\$ cts.	\$ cts.	\$ cts.	\$ cts.
1	Bee-keeping.....	782 00	1,500 00	2,282 00	853 39	1,428 61
2	Demonstration Trains.....		7,000 00	7,000 00	5,023 58	1,976 42
3	Demonstration Farms.....	8,993 42	12,000 00	20,993 42	15,969 59	5,023 83
4	Field and Animal Husbandry.	3,076 46	8,000 00	11,076 46	1,757 15	9,319 31
5	Poultry Husbandry.....	1,130 75	2,000 00	3,130 75	1,600 75	1,530 00
6	Weed Demonstrations.....	500 00	1,000 00	1,500 00	330 75	1,169 25
7	Produce Marketing.....	3,000 00	3,000 00	6,000 00	1,944 75	4,055 25
8	Alfalfa Plots.....	1,025 89	1,000 00	2,025 89	224 58	1,801 31
9	Children's Clubs.....	972 03	3,000 00	3,972 03	2,537 28	1,434 75
10	Agricultural Instructors.....	1,725 00		1,725 00		1,725 00
11	Drainage.....	928 69	1,000 00	1,928 69	1,299 85	628 84
12	Home Economics—Instructors....	1,751 85	4,500 00	6,251 85	4,353 99	1,897 86
13	Home Economics—Equipment....	239 96		239 96		239 96
14	Dairying Instructors.....	604 48	5,000 00	5,604 48	5,377 50	226 98
15	Excursions, College Farms..		1,000 00	1,000 00		1,000 00
16	Vegetable and Horticultural Demonstrations....	200 00	2,000 00	2,200 00	318 76	1,881 24
17	Bulletins.....		3,000 00	3,000 00	2,976 25	23 75
18	Farm Mechanics.....		3,000 00	3,000 00	500 00	2,500 00
19	Miscellaneous.....	1,938 90	75 45	2,014 35	1,474 98	539 37
	Totals.....	26,869 43	58,075 45	84,944 88	46,543 15	38,401 73

DETAILS OF EXPENDITURE, APRIL 1, 1914, TO MARCH 31, 1915.

1. Bee-keeping.

Grant, 1914-15.. . . . .	\$	1,500 00	
Balance forward, April 1, 1914.. . . . .		782 00	
Expended to March 31, 1915.. . . . .	\$		853 39
Balance unexpended March 31, 1915.. . . . .			1,428 61
Total.. . . . .	\$	2,282 00	\$ 2,282 00



1.—*Bee-keeping*—Continued:

## 2.—*Demonstration Trains.*

### 3.—*Demonstration Farms.*

#### 4.—Field and Animal Husbandry.

Lecturers, etc.—		
Sundry persons, services and expenses..	.. .. .	\$ 761 80
Geo. H. Jones, Professor Animal Husbandry, salary..	.. \$200 00	
“ “ “ expenses	.. 116 25	
A. Blackstock, Lecturer Animal Husbandry, salary ..	625 00	
“ “ “ expenses	.. 34 70	
		<hr/>
		975 95
Incidentals..	.. .. .	19 40
		<hr/>
Total..	.. .. .	\$ 1,757 15



5.—Poultry Husbandry.

Grant, 1914-15.. . . . .	\$	2,000 00	
Balance forward, April 1, 1914.. . . . .		1,130 75	
Expended to March 31, 1915.. . . . .		.....	\$ 1,600 75
Balance unexpended March 31, 1915.. . . . .		.....	1,530 00
	\$	3,130 75	\$ 3,130 75
J. E. Bergey, Demonstrator, salary and expenses.. . . . .	\$		392 08
Premiums.. . . . .			833 51
Expenses lecturers, etc.. . . . .			75 16
Grant, Brandon Show.. . . . .			300 00
Total.. . . . .	\$		1,600 75

Lectures and demonstrations on the feeding, killing and dressing of all kinds of poultry are carried on among the farmers by an officer of the college.

6.—Weed Demonstrations.

Grant, 1914-15.. . . . .	\$	1,000 00	
Balance forward, April 1, 1914.. . . . .		500 00	
Expended to March 31, 1915.. . . . .		.....	\$ 330 75
Balance unexpended March 31, 1915.. . . . .		.....	1,169 25
Total.. . . . .	\$	1,500 00	\$ 1,500 00
Separator.. . . . .	\$		32 25
Demonstrations.. . . . .			298 50
Total.. . . . .	\$		330 75

A municipal Weed Inspectors' Short Course and Conference is held at the College each year in June for the purpose of aiding these officers in the performance of their duties.

7.—Produce Marketing.

Grant, 1914-1915.. . . . .	\$	3,000 00	
Balance forward, April 1, 1914.. . . . .		3,000 00	
Expended to March 31, 1915.. . . . .		.....	\$ 1,944 75
Balance unexpended March 31, 1915.. . . . .		.....	4,055 25
Total.. . . . .	\$	6,000 00	\$ 6,000 00
L. A. Gibson, salary.. . . . .	\$		1,725 00
“ expenses.. . . . .			138 60
Printing and stationery.. . . . .			81 15
Total.. . . . .	\$		1,944 75

8.—Alfalfa Plots.

Grant, 1914-15.. . . . .	\$	1,000 00	
Balance forward, April 1, 1914.. . . . .		1,025 89	
Expended to March 31, 1915.. . . . .		.....	\$ 224 58
Balance unexpended March 31, 1915.. . . . .		.....	1,801 31
Total.. . . . .	\$	2,025 89	\$ 2,025 89
Geo. H. Jones, expenses.. . . . .	\$		32 40
Labour and supplies.. . . . .			192 18
Total.. . . . .	\$		224 58



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9.—*Children's Clubs.*

Grant, 1914-15.. .. .	\$	3,000 00	
Balance forward, April 1, 1914.. .. .		972 03	
Expended to March 31, 1915.. .. .			\$ 2,537 28
Balance unexpended March 31, 1915.. .. .			1,434 75
Total.. .. .	\$	3,972 03	\$ 3,972 03

E. W. Jones, expenses.. .. .	\$	5 75	
A. Blackstock, expenses.. .. .		21 40	
Seeds, eggs, etc.. .. .		1,235 83	
Grants, Boys' clubs.. .. .		649 49	
Printing and stationery.. .. .		288 88	
Express and miscellaneous expenses.. .. .		335 93	
Total.. .. .	\$		2,537 28

11.—*Drainage.*

Grant, 1914-15.. .. .	\$	1,000 00	
Balance forward, April 1, 1914.. .. .		928 69	
Expended to March 31, 1915.. .. .			\$ 1,299 85
Balance unexpended March 31, 1915.. .. .			628 84
Total.. .. .	\$	1,928 69	\$ 1,928 69

Materials and supplies.. .. .	\$	487 55	
Labour, wages, board.. .. .		797 50	
Miscellaneous.. .. .		14 80	
Total.. .. .	\$		1,299 85

12.—*Home Economics—Instructors.*

Grant, 1914-15.. .. .	\$	4,500 00	
Balance forward, April 1, 1914.. .. .		1,751 85	
Expended to March 31, 1915.. .. .			\$ 4,353 99
Balance unexpended March 31, 1915.. .. .			1,897 86
Total.. .. .	\$	6,251 85	\$ 6,251 85

Miss Gowsell, Instructor, salary and expenses.. .. .	\$1,946 95		
Miss E. Crawford, Instructor, salary and expenses.. .. .	500 75		
Mrs. Salisbury, Superintendent, " .. .	230 15		
Mrs. H. W. Drayton, expenses.. .. .	100 00		
Sundry persons, expenses.. .. .	80 05		
		\$	2,857 90
Library equipment.. .. .			261 29
Grants.. .. .			830 50
Prizes.. .. .			150 00
Certificates.. .. .			80 00
Expenses to conventions.. .. .			71 05
Supplies and Utensils.. .. .			78 50
Miscellaneous.. .. .			24 75
Total.. .. .		\$	4,353 99

14.—*Dairying Instructors.*

Grants, 1914-15.. .. .	\$	5,000 00	
Balance forward, April 1, 1914.. .. .		604 48	
Expended to March 31, 1915.. .. .			\$ 5,377 50
Balance unexpended March 31, 1915.. .. .			226 98
Total.. .. .	\$	5,604 48	\$ 5,604 48



4.—*Dairying Instructors*—Continued.

J. W. Crowe, Instructor, salary.. . . . .	\$	2,400	00
“ expenses.. . . . .		800	95
E. Cinpak, Interpreter, salary and expenses.. . . . .		1,893	25
Rev. N. C. Jutras, Lectures.. . . . .		271	50
Supplies.. . . . .		11	80
Total.. . . . .	\$	5,377	50

Expended for instruction work in outlying districts, particularly amongst the foreign-born population.

16.—*Vegetable and Horticultural Demonstrations.*

Grant, 1914-15.. . . . .	\$	2,000	00
Balance forward, April 1, 1914.. . . . .		200	00
Expended to March 31, 1915.. . . . .	\$	318	76
Balance unexpended March 31, 1915.. . . . .		1,881	24
Total.. . . . .	\$	2,200	00
Grants.. . . . .	\$	150	00
School prizes.. . . . .		50	00
Lectures.. . . . .		12	05
Incidentals.. . . . .		106	71
Total.. . . . .	\$	318	76

The growing of vegetables is stimulated by lectures, grants and prizes.

17.—*Bulletins.*

Grant, 1914-15.. . . . .	\$	3,000	00
Balance forward, April 1, 1914.. . . . .			
Expended to March 31, 1915.. . . . .	\$	119	75
Balance unexpended March 31, 1915.. . . . .		2,856	50
Total.. . . . .	\$	3,000	00

The whole of this expenditure was for printing, etc.

18.—*Farm Mechanics.*

Grant, 1914-15.. . . . .	\$	3,000	00
Expended to March 31, 1915.. . . . .	\$	500	00
Balance unexpended March 31, 1915.. . . . .		2,500	00
Total.. . . . .	\$	3,000	00
Grants to schools.. . . . .	\$	500	00

19.—*Miscellaneous.*

Grant, 1914-15.. . . . .	\$	75	45
Balance forward, April 1, 1914.. . . . .		1,938	90
Expended to March 31, 1915.. . . . .	\$	1,474	98
Balance unexpended March 31, 1915.. . . . .		539	37
Total.. . . . .	\$	2,014	35
Grant, Spring stallion show.. . . . .	\$	200	00
Railway fares, children's club.. . . . .		340	50
Entomological specimens.. . . . .		330	40
Creamery convention fares.. . . . .		91	05
Jas. P. Grant, salary.. . . . .		375	00
M. A. C. disbursements.. . . . .		111	23
Miscellaneous.. . . . .		26	80
Total.. . . . .	\$	1,474	98

Mr. Jas. P. Grant was employed in keeping the financial records of the expenditures under The Agricultural Instruction Act.



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SUMMARY FINANCIAL STATEMENT TO MARCH 31, 1914.

FEDERAL SUBSIDY OF 1913-14.

Section No.	Classification.	Grant.	Expended to Mar. 31, 1914.	Unexpended Balances Mar. 31, 1914.	Over-expended Balances.
		\$ cts.	\$ cts.	\$ cts.	\$ cts.
1	Bee-keeping.....	1,000 00	218 00	782 00	
2	Demonstration Trains...	5,000 00	5,358 57		358 57
3	Demonstration Farms.....	13,500 00	4,506 58	8,993 42	
4	Field and Animal Husbandry.	5,000 00	1,923 54	3,076 46	
5	Poultry Husbandry.....	2,000 00	869 25	1,130 75	
6	Weed Demonstrations.....	500 00		500 00	
7	Produce Marketing.....	3,000 00		3,000 00	
8	Alfalfa Plots.....	2,000 00	974 11	1,025 89	
9	Children's Clubs.....	2,000 00	1,027 97	972 03	
10	Agricultural Instructors.....	3,000 00	1,275 00	1,725 00	
11	Drainage.....	1,800 00	871 31	928 69	
12	Home Economics—Instruction..	2,500 00	748 15	1,751 85	
13	Home Economics—Equipment....	2,000 00	1,760 04	239 96	
14	Dairying—Travelling Instructors....	3,000 00	2,395 52	604 48	
15	Excursions to College Farms.....	100 00	100 00		
16	Vegetable Growing and Horticulture	200 00		200 00	
17	Bulletins.....	2,900 00	3,019 75		119 75
18	Miscellaneous.....	2,230 05	291 15	1,938 90	
	Totals.....	51,730 05	25,338 94	26,869 43	478 32

DETAILS OF EXPENDITURE TO MARCH 31, 1914.

1.—Bee-keeping.

Grant, 1913-14..	\$ 1,000 00	
Expended to March 31, 1914..		\$ 218 00
Balance unexpended March 31, 1914..		782 00
Total..	\$ 1,000 00	\$ 1,000 00
Total..	\$ 1,000 00	\$ 1,000 00
W. Lloyd, salary..		\$ 208 25
Supplies..		9 75
Total..		\$ 218 00

2.—Demonstration Train.

Grant, 1913-14..	\$ 5,000 00	
Expended to March 31, 1914..		\$ 5,358 57
Balance over-expended March 31, 1914..	358 57	
Total..	\$ 5,358 57	\$ 5,358 57
Services and expenses, sundry persons..	\$687 26	
Mrs. R. McCharles, Lecturer..	137 75	
		\$ 825 01
Equipment and supplies..		627 04
Printing and advertising..		649 75
Meals and berths..		739 00
Incidentals..		139 09
C. P. Railway..		1,408 15
Boyd Bishop Co..		808 53
F. L. Kenny..		162 00
Total..		\$ 5,358 57



3.—*Demonstration Farms.*

Grant, 1913-14.. . . . .	\$ 13,500 00	
Expended to March 31, 1914.. . . . .		\$ 4,506 58
Balance unexpended March 31, 1914.. . . . .		8,993 42
Total.. . . . .	\$ 13,500 00	\$ 13,500 00
Geo. H. Jones, Superintendent, salary.. . . . .	\$ 460 10	
“ “ expenses.. . . . .	499 23	
S. A. Bedford, expenses.. . . . .	132 45	
		\$ 1,091 78
Labour and board.. . . . .		2,624 06
Materials and supplies, fencing, etc.. . . . .		646 08
Lantern.. . . . .		76 00
Incidentals.. . . . .		68 66
Total.. . . . .		\$ 4,506 58

4.—*Field and Animal Husbandry Lectures.*

Grant, 1913-14.. . . . .	\$ 5,000 00	
Expended to March 31, 1914.. . . . .		\$ 1,923 54
Balance unexpended March 31, 1914.. . . . .		3,076 46
Total.. . . . .	\$ 5,000 00	\$ 5,000 00
Sundry persons, services and expenses, lectures.. . . . .	\$ 1,518 56	
Printing, advertising, postage.. . . . .	371 55	
Incidentals.. . . . .	33 43	
Totals.. . . . .		\$ 1,923 54

5.—*Poultry Husbandry Lectures and Demonstrations.*

Grant, 1913-14.. . . . .	\$ 2,000 00	
Expended to March 31, 1914.. . . . .		\$ 869 25
Balance unexpended March 31, 1914.. . . . .		1,130 75
Total.. . . . .	\$ 2,000 00	\$ 2,000 00
Premiums.. . . . .		\$ 817 05
Expenses, lectures.. . . . .		52 20
Total.. . . . .		\$ 869 25

8.—*Alfalfa Plots.*

Grant, 1913-14.. . . . .	\$ 2,000 00	
Expended to March 31, 1914.. . . . .		\$ 974 11
Balance unexpended March 31, 1914.. . . . .		1,025 89
Total.. . . . .	\$ 2,000 00	\$ 2,000 00
G. H. Jones, salary.. . . . .	\$ 100 00	
“ expenses.. . . . .	317 40	
		\$ 417 40
Travelling expenses.. . . . .		134 30
Material, implements and supplies.. . . . .		178 54
Seed.. . . . .		53 34
Rent of plots, etc.. . . . .		89 40
Miscellaneous.. . . . .		101 13
Total.. . . . .		\$ 974 11



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9. *Children's Clubs.*

Grant, 1913-14.. . . . .	\$ 2,000 00	
Expended to March 31, 1914.. . . . .		\$ 1,027 97
Balance unexpended March 31, 1914.. . . . .		972 03
Total.. . . . .	\$ 2,000 00	\$ 2,000 00
Geo. H. Jones, travelling.. . . . .	\$ 99 81	
A. Blackstock.. . . . .	42 80	
M. C. Herner.. . . . .	67 10	
		\$ 209 71
Prizes.. . . . .		343 05
Seeds and eggs supplied members.. . . . .		353 83
Miscellaneous.. . . . .		121 38
Total.. . . . .		\$ 1,027 97

10.—*Instructors in Agriculture.*

Grant, 1913-14.. . . . .	\$ 3,000 00	
Expended to March 31, 1914.. . . . .		\$ 1,275 00
Balance unexpended March 31, 1914.. . . . .		1,725 00
Total.. . . . .	\$ 3,000 00	\$ 3,000 00
A. Blackstock, salary.. . . . .	\$ 875 00	
Geo. H. Jones, salary.. . . . .	400 00	
		\$ 1,275 00
Total.. . . . .		\$ 1,275 00

11.—*Tile Drainage.*

Grant, 1913-14.. . . . .	\$ 1,800 00	
Expended to March 31, 1914.. . . . .		\$ 871 31
Balance unexpended March 31, 1914.. . . . .		928 69
Total.. . . . .	\$ 1,800 00	\$ 1,800 00
W. G. Weiner, salary.. . . . .		\$ 205 00
Travelling.. . . . .		39 95
Materials and supplies.. . . . .		490 00
Miscellaneous.. . . . .		18 16
Labour and wages.. . . . .		118 20
Total.. . . . .		\$ 871 31

12.—*Home Economics.*

Grant, 1913-14.. . . . .	\$ 2,500 00	
Expended to March 31, 1914.. . . . .		\$ 748 15
Balance unexpended March 31, 1914.. . . . .		1,751 85
Total.. . . . .	\$ 2,500 00	\$ 2,500 00
Jessie D. Ross, services and expenses.. . . . .		\$ 352 85
Mrs. E. C. Salisbury, travelling.. . . . .		75 80
Miss M. Kennedy, travelling.. . . . .		27 05
Miss H. M. Gowsell, salary and expenses.. . . . .		274 95
Miss A. F. Playfair, services.. . . . .		17 50
Total.. . . . .		\$ 748 15



13.—*Equipment, Home Economics.*

Grant, 1913-14.. . . . .	\$ 2,000 00	
Expended to March 31, 1914.. . . . .	.....	\$ 1,760 04
Balance unexpended March 31, 1914.. . . . .	.....	239 96
Total.. . . . .	\$ 2,000 00	\$ 2,000 00
Two thousand handbooks.. . . . .	\$ 283 50	
Printing bulletin.. . . . .	1,426 58	
		\$ 1,710 08
Office supplies.. . . . .		49 96
Total.. . . . .		\$ 1,760 24

14.—*Instructors in Dairying.*

Grant, 1913-14.. . . . .	\$ 3,000 00	
Expended to March 31, 1914.. . . . .	.....	\$ 2,395 52
Balance unexpended March 31, 1914.. . . . .	.....	604 48
Total.. . . . .	\$ 3,000 00	\$ 3,000 00
W. J. Crowe, salary.. . . . .	\$ 1,400 00	
“ expenses.. . . . .	478 92	
		\$ 1,878 92
E. Cinpak, salary and expenses.. . . . .		442 95
Lecturers, services and expenses.. . . . .		68 65
Advertising.. . . . .		5 00
Total.. . . . .		\$ 2,395 52

15.—*Excursions to Experimental Farms.*

Grant, 1913-14.. . . . .	\$ 100 00	
Expended to March 31, 1914.. . . . .	.....	\$ 100 00
Total.. . . . .	\$ 100 00	\$ 100 00
Convention train to college.. . . . .		\$ 100 00

17.—*Publication of Bulletins.*

Grant, 1913-14.. . . . .	\$ 2,900 00	
Expended to March 31, 1914.. . . . .	.....	\$ 3,019 75
Balance overexpended March 31, 1914.. . . . .	119 75	
Total.. . . . .	\$ 3,019 75	\$ 3,019 75
Bulletins: Dairy, home economics, farm buildings, hog, horse, farm garden.. . . . .		\$ 3,019 75

18.—*Miscellaneous.*

Grant, 1913-14.. . . . .	\$ 2,230 05	
Expended to March 31, 1914.. . . . .	.....	\$ 291 15
Balance unexpended March 31, 1914.. . . . .	.....	1,938 90
Total.. . . . .	\$ 2,230 05	\$ 2,230 05
Camera, etc.. . . . .		\$ 192 70
Fares, creamery convention.. . . . .		98 45
Total.. . . . .		\$ 291 15



SESSIONAL PAPER No. 15c

AGRICULTURAL AID ACT, 1912.

SUBSIDY \$31,730.05.

Expenditure to May 31, 1915—

Demonstration farms.. . . .	\$ 5,425 90
“        trains .. . . .	3,278 45
Agricultural meetings, lectures.. . . .	1,046 10
Ploughing matches.. . . .	230 98
Poultry industry.. . . .	985 20
Grant to Agricultural societies.. . . .	14,501 65
<b>Total.. . . .</b>	<b>\$ 25,468 28</b>
Balance unexpended.. . . .	6,261 77
Interest accrued.. . . .	139 56
<b>Total.. . . .</b>	<b>\$ 31,869 61</b>

COMPARATIVE STATEMENT OF EXPENDITURE OF PROVINCIAL FUNDS  
FOR AGRICULTURAL PURPOSES FOR THE YEARS 1912, 1913, 1914,  
AND ESTIMATED EXPENDITURE FOR 1915.

Service.	1912, to Nov. 30.	1913, to Nov. 30.	1914, to Nov. 30.	1915, to No. 30 (estimated).
	\$ cts.	\$ cts.	\$ cts.	\$ cts.
Department—Salaries.....	10,121 67	14,729 97	14,700 00	14,700 00
“        Office expenses.....	1,287 51	1,675 28	1,496 07	1,500 00
Agricultural Societies and Farmers' Institutes, Judging, Seed Fairs, etc.....	51,739 73	41,937 40	39,426 53	54,300 00
Agricultural Statistics.....	2,507 52	3,412 77	2,702 70	3,000 00
Noxious Weeds Inspection.....	4,078 55	4,896 29	5,612 90	7,000 00
Grants to Live Stock Associations, Winter Fairs, Exhibitions, and Societies (Dom. Fair, \$20,000, special in 1913).....	24,730 37	36,473 00	19,229 00	11,050 00
Miscellaneous.....				1,000 00
Manitoba Agricultural College—				
Salaries.....	50,807 85	68,393 02	76,190 00	86,000 00
Maintenance.....	26,107 84	36,461 85	52,172 71	66,500 00
Fuel.....	8,956 25	12,537 55	40,342 06	35,000 00
<b>Totals.....</b>	<b>180,337 29</b>	<b>220,517 13</b>	<b>251,872 08</b>	<b>280,050 00</b>
Revenue—				
Agricultural College fees, etc.....	15,668 09	16,509 91	18,175 77	20,000 00
<b>Net total.....</b>	<b>\$164,669 20</b>	<b>\$204,007 22</b>	<b>\$233,696 31</b>	<b>\$260,050 00</b>



SASKATCHEWAN

The subsidy provided under the Agricultural Instruction Act and its allotment in 1914-15:—

To provide for the introduction of agricultural and domestic science courses into High schools and Collegiate Institutes and the training of teachers in agriculture at the Provincial Normal schools; (to be expended by the Department of Education in the form of grants to such institutions under regulations to be framed and approved) . . . . .	\$ 6,500 00
College of Agriculture. To provide additional teachers and to conduct additional research work . . . . .	14,000 00
Salaries and expenses of travelling instructors and demonstrators in field husbandry, animal husbandry and dairying; (5 in field husbandry, under Weeds Branch, \$10,000; 3 in animal husbandry, under Live Stock Branch, \$7,000; 3 in dairying, under Dairy Branch, \$6,652.31 . . . . .	23,652 31
Educational and development work to promote and direct organization of farmers along co-operative lines for production and marketing of farm products . . . . .	6,000 00
To meet Province's share of cost of equipment, manning and advertising demonstration trains . . . . .	10,000 00
To assist Saskatchewan Veterinary Association to hold post-graduate short courses for Veterinary Surgeons . . . . .	1,000 00
Total . . . . .	\$ 61,152 31

OUTLINE OF WORK PERFORMED.

The annual Federal grant to Saskatchewan for agricultural instruction is expended through three channels, the College of Agriculture, the Department of Agriculture, and the Department of Education. The understanding is that in a few years the grant shall be equally divided among these three.

The College of Agriculture is an integral part of the University of Saskatchewan, located at Saskatoon. Its work falls into three divisions, viz., research work, teaching work carried on at the institutions, and extension work carried on mainly through the medium of agricultural societies and some of the grain growers' associations.

The Department of Education assumes responsibility for the teaching of agriculture in the elementary and secondary schools, and the training of teachers in connection with this work.

While the activities of the Department of Agriculture, are chiefly of an administrative character, it is found in practice that they cannot be entirely severed from instructional work. Hence, the co-operatively-owned but Government-operated creameries require that instruction be given to the patrons in correct dairying methods; the movement for the licensing of stallions makes instruction necessary as to what constitutes soundness and correct conformation in a horse; the policy of selling beef and dairy cattle and sheep to farmers on part credit carries with it the necessity for giving instruction in their proper care and management to those who purchase them. The campaign against noxious weeds cannot be successful without a recognition of the fact that weeds are a by-product of poor farming. To encourage co-operative activities, carries with it the necessity for instruction in the principles underlying successful co-operation. It is at this point that the subsidy granted under the Agricultural Instruction Act is drawn upon—to assist the department to provide the instruction it feels called upon to give in order properly to supplement its administrative work.



## SESSIONAL PAPER No. 15c

## COLLEGE OF AGRICULTURE.

The College of Agriculture of the University of Saskatchewan reaches the people on the farm directly through its Extension Department. The money obtained by the University from the fund authorized under the Act has been expended in most part in salaries of additional members of the staff—men and women—called for by the extension work, and by the strengthening of the agricultural teaching and research departments, and the department of Women's Work. In 1914, \$16,400 was used for this purpose.

Six appointments have been made in addition to the thirteen stated on page 111 of the previous Report, as follows:—Two assistants in Field Husbandry; three research assistants in Soil Physics and Chemistry, and a lecturer in Homemakers' Work.

*Extension Work.*—The extension work, supported by the funds received from the Federal subsidy, consisted mainly in the holding of short courses, the attendance at which in 1914-15 to March 31, was over 3,000 persons.

*Short Courses.*—The following is a complete statement of the short courses held during the year beginning March 31, 1914, and ending March 31, 1915.

1. At the University—Courses of four days or less:

(a) Homemakers' Convention, held last week in May, 1914. One hundred and twenty-four in attendance. Topics relating to the home, school and neighbourhood were studied and demonstrations in cooking were given.

(b) Agricultural Societies' Convention, January, 1915, 139 delegates in attendance. Besides discussions on agricultural society work proper, lectures were given on tillage methods, seed selection, live stock selection and breeding, feeding and management; and demonstrations on the selection and judging of cattle, sheep, horses, swine and poultry.

(c) Dairymen's Convention delegates, January, 1915. Ninety-five in attendance. Demonstrations on the selection and judging of dairy cattle; lectures on methods of improving dairy herds and lectures on staple forage crops for dairy cattle in Saskatchewan, and how to produce the same.

Courses of More Than Four Days:

(a) Domestic Science for young women from the farms. Three weeks in June, 1914. Twenty-one in attendance.

(b) Engineering for young men wishing to learn to operate internal combustion engines. Three weeks in June, 1914; seven in attendance.

(c) Farmers' Course. Five days in January, 1915. One hundred and fifty-two in attendance. The topics discussed were tillage, seed, best methods for preparing and managing summer-fallow, preparation of stubble land for crops, preparation of prairie land for crops, demonstration on the selecting, judging, breeding and marketing of farm animals, horses, cattle, sheep, swine and poultry; lectures and demonstrations on farm machinery.

2. At Outside Schools and Colleges:

(a) Regina College, for young men from the farms taking the winter course there. The College of Agriculture sent four professors to lecture and demonstrate on tillage, crops, implements and live stock, including poultry. Fifty students and forty-seven farmers were registered for this course.

(b) Regina Normal School, for the teachers a similar course of lectures was put on for five days. One hundred and thirty-four in attendance.



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(c) Moosejaw College, for young men from the farms taking the winter short course there—85 students and 12 farmers registered; a course was given similar to that given at the Regina College.

(d) Saskatoon Normal School, a similar course was given. One hundred and ninety-eight were registered.

3. Courses of two to four days at seventeen other points: The total attendance was 1,807 men and 994 women.

These courses were for men and women, and where possible, the school children of the higher grades. Lectures and demonstrations by means of charts and lantern slides on tillage, crops and animals. At nearly every point much interest was manifested. The subjects discussed at these meetings were those that were asked for by the people themselves.

Other agencies of extension work are the agricultural societies, better-farming specials, dairy cars and homemakers' clubs. Extension work was carried on also in newer districts where no agricultural societies had been organized. A representative of the College went through the districts, met homesteaders, interested them in the work, and made arrangements for meetings. Then followed the lecturers, who usually got a good hearing, and something valuable was done. The work was done mainly in June and July, and is performed largely by members of the staff of the College. Over 125,000 people were reached directly by these agencies, not including those who attended the short courses.

In the research work being carried on the members of the staff whose appointment is due to the subsidy are rendering valuable assistance. This work includes investigation and experiment in connection with tillage, soils, alfalfa, cereals, animal and poultry husbandry, biology, agricultural engineering, machinery and building problems. Data is being gathered concerning the cost of farming operations and farm machinery.

*Women's Work:* In the department of Women's Work of the University is included the direction and assistance of 140 homemakers' clubs, in addition to the holding of short courses for women. The principal activities of the clubs are in connection with the following: Patriotic work, relief to sufferers from poor crops, improvement of school surroundings, care of needy children, holding of short courses, opening community club library and reading rooms. Speakers and demonstrators are sent out when asked for by the clubs. Sixty libraries have been started, and in several places, district nurses have been provided through the activities of the clubs.

The following is an extract from the report of President Murray on the work of the University of Saskatchewan in 1914-15:—

"We are all greatly gratified to find that the university is appealing to students of the different nationalities in the province, and that these students are attaining such high distinction. Most cordially are they welcomed to the university. The life of this province is being greatly enriched by the artistic, literary and musical gifts which they and their peoples are bringing to us.

We of Canadian birth do not realize to the full how much Saskatchewan owes to European culture. Every convention, be it grain growers', homemakers', or municipalities', but deepens the conviction that their high character is due to the training and culture of Britain and the continent of Europe. Unless we exert ourselves to the uttermost, the next generation will fall behind the present in intellectual and artistic attainment.

It is now a fitting time, after three years' trial, to pass judgment upon the experiment of bringing together students in arts, agriculture and the other professional schools on the same campus and under the same roof. Very many questioned the wisdom of our action, and some predicted discord, the neglect of agriculture and an accentuation of the movement from the farms to the towns.



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The students in the various colleges have never been conscious of sectional distinctions. They have roomed together, studied together, participated side by side in the same sports and co-operated in the different student societies. The experiment of co-operation has been an unqualified success among the students, and we believe that it will have far-reaching success in the life of our province. Instead of students in agriculture being drawn into arts, we have found that the movement has been towards agriculture.

While much of the credit of this is due to the students, a very large share is also due to the spirit of the staff."

## DEPARTMENT OF EDUCATION.

It is the policy of the Department of Education to make agricultural instruction an integral part of the educational system. The design at present is to extend such instruction to the public schools, the high schools and collegiate institutes. The courses to be established will look forward to practical work on the farms and to higher courses in the College of Agriculture. It is the purpose to encourage the practice of school gardening (voluntary for the present) making efficiency for rural life the basic principle underlying the work, interpreted as including its material and social aspects. The work will be so devised as to attempt to demonstrate that life on the farm can be made both profitable and pleasant.

Hitherto the department has been engaged with the urgent problem of organizing school districts to keep pace with the extending population to the exclusion to some extent of the newer movements in education. It is recognized that the most important of these newer movements is efficient agricultural instruction.

An Agricultural Instruction Committee has been appointed to advise on all matters pertaining to the scope and character of agricultural education in public, high and normal schools. Two Directors of School Agriculture have been appointed. F. W. Bates, M. Sc., will have charge of this work in the northern half of the province, with headquarters at Saskatoon; while A. W. Cocks, B. Sc., will be responsible for the supervision of the work in the southern half of the province, and will have his headquarters at the Department of Education, Regina. Miss Fannie A. Twiss was appointed in the spring of 1915 Director of Household Science for the province.

Short courses in agriculture and household science were conducted in July, 1915, at the University of Saskatchewan and at the Provincial Normal School, Regina. These courses were well attended by the teachers and inspectors of the province.

In view of the importance of Forestry to the province, a bulletin entitled "Tree Planting for the Schools of Saskatchewan," has been published and distributed. Another bulletin entitled, "Gardening for the Schools of Saskatchewan," has been distributed and is proving very helpful to those teachers undertaking instructions in horticulture and agriculture.

## DEPARTMENT OF AGRICULTURE.

1. *Animal Husbandry*.—Travelling instructors and demonstrators were employed as follows: Three travelling instructors in live stock or animal husbandry are at work under the direction of the Provincial Live Stock Commissioner. Their salaries and expenses are provided by the Federal grant. These men assist in the work of live stock distribution, and promote the horse breeding industry by assisting in the administration of the Horse Breeders' Act.

2. *Dairying*.—Under the direction of the Provincial Dairy Commissioner, three dairy instructors are working in the province. That creameries may be located only in places where they will prove successful, one of the instructors devotes the greater



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portion of his time to investigating. Should he decide that the erection of a creamery is advisable, he assists the local dairymen to organize and get their plant into operation. In 1915, he was further delegated with the duty of getting information and statistics concerning cream buying stations within the province preliminary to adopting legislation effecting their control. Two instructors are employed to relieve the managers of the local creameries, allowing them to travel through the territory tributary to their creameries, visiting their patrons, seeing how the cream is produced and handled and giving advice to the producers. During the winter months special dairy demonstration and lecture cars are run on the different railway lines. The principal speakers on these are the provincial dairy instructors, assisted by members of the college staff. The addresses covered general dairy topics with particular reference to the improvement and management of a dairy herd. Lantern views were used in connection with the addresses. The total attendance was 6,544.

3. *Field Husbandry*.—Five instructors in field husbandry, known as field representatives, have been appointed under the Weed and Seed Branch. Their salaries and travelling expenses are charged to the federal grant, and their duties include the supervision of the Agricultural Secretaries and the Weed Inspectors, who were appointed and paid by the municipalities. To this end, the province has been divided into five districts with a representative in charge of each. Three of the representatives are graduates and the other two are undergraduates of the Manitoba Agricultural College. The agricultural secretaries devote all their time to the promotion of better farming, holding public meetings and visiting the individual farmers. They also act as inspectors under the Noxious Weeds Act, and it is the policy of the department to encourage the appointment of successful and progressive farmers as agricultural secretaries to promote better farming, instead of merely appointing inspectors to enforce weed destruction. The field representatives direct the work of these men, advise them in regard to matters connected with field husbandry, and address meetings. The plan is not to be regarded as a permanent solution of this phase of the problem of agricultural instruction. It will probably serve merely to tide over in some measure until such time as a steady supply of trained and suitable men and machinery are available, whereby some larger unit than a rural municipality can co-operate with the department in maintaining a competent, qualified district representative throughout the year.

*Better Farming Special*.—The college co-operated with the department in manning and equipping the demonstration train which operated in June and July, 1914, over the Canadian Pacific railway. The equipment carried consisted of models of farm buildings, machinery and implements, two cars of stock and poultry. A car was provided for the teaching of field husbandry and another for demonstration work. Accompanying the train were the assistant professors of agricultural engineering, poultry husbandry, animal husbandry and field husbandry, and the heads of the various branches of the Department of Agriculture. During the five weeks' trip, 1,287 miles of railway were traversed, stops made at 88 towns and villages, and a total of 35,000 attended the lectures.

*Co-operative Organizations*: The educational and development work to promote co-operative production and marketing of farm products is in the hands of a director and an assistant, whose salaries and expenses are charged to the subsidy. Their principal work is to gather and disseminate information regarding agricultural co-operative producing and marketing associations, and to encourage and assist in the organization of such associations by supplying information regarding markets, freight rates, etc.; by aiding in drawing up articles of incorporation, by-laws, etc., and by supplying speakers to give advice upon the particular line of work which the association has in view. At the close of 1914, 113 associations had organized and registered under the



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Agricultural Co-operative Association Act, covering all parts of the province. Seventy of these were engaged in the purchase of supplies, three in the marketing of live stock, six engaged in that along with other lines of business, and the remaining 29 had not at that time begun active business operations. During the season of 1914, valuable assistance was rendered Saskatchewan wool-producers through a co-operative wool marketing project organized and carried out by the department. It was found that wool production was not bringing the farmers the returns that it should, due to lack of care in preparation, and selling and shipping in small quantities. To overcome these defects and to stimulate the sheep-raising industry, the department undertook in the spring of 1914 to market, without charge, the clip for sheep men who would prepare their wool in accordance with directions. Some 180 sheep-owners took advantage of this offer, a total of 69,404 pounds of wool was assembled in a warehouse in Regina, and sold in car lots to a firm of American wool dealers, an average price of 16.47 cents being paid to the producers after defraying all costs for freight to Regina, cost of sacks, twine, and other incidental expenses. Considering that prices received in former years ranged from 10 cents to 13 cents per pound, the results were most satisfactory. So successful were these operations that the department repeated and enlarged the work in 1915. In addition to operating a receiving and grading warehouse in Regina, arrangements were made to accept delivery of carload lots of wool at any local shipping point in the province. This arrangement should add materially to the value of the undertaking as there are many points where three or four breeders could combine to make up a car lot, thereby increasing prices by reducing freight charges.

The following bulletins and pamphlets were issued:—

	Copies.
Live stock marketing (pamphlet) . . . . .	5,000
Co-operative beef rings (pamphlet) . . . . .	1,500
Live stock marketing (bulletin) . . . . .	15,000
Suggested lines of co-operative production . . . . .	15,000..

Also a large number of copies of the Co-operative Associations Act with explanations.

*Short Courses for Veterinary Surgeons.*—The Saskatchewan Veterinary Association conducted its first Summer School at Regina from July 27 to August 1, 1914. A number of prominent veterinarians lectured and held clinics. A grant of \$500 for expenses was made out of the federal fund. The Summer School was held in connection with the semi-annual meeting of the association of which Dr. J. A. Armstrong, of Regina, was president. The other members of the council were Doctors J. J. Murison, Arcola; D. S. Tamblyn, Regina; John King, Carlyle; Norman Wright, Saskatoon; R. A. McLoughry, Moosomin; and A. G. Hopkins. In addition to the instruction by Saskatchewan veterinarians, lectures and practical instruction were given by Dr. C. D. McGilvray, of Winnipeg, Dr. John Scott, of Peoria, Illinois, and Dr. A. Knight, Chief Veterinary of British Columbia. A printed report was issued giving a digest of the instruction at this Summer School.



FEDERAL SUBSIDY OF 1914-1915.  
SUMMARY STATEMENT TO MARCH 31, 1915.

Section No.	Classification.	Grant, 1914-15.	Expended to Mar. 31, 1915.	Balance Unexpended, Mar. 31, 1915.
		\$ cts.	\$ cts.	\$ cts.
1	School Courses in Agriculture and Domestic Science	6,500 00	682 24	5,817 76
2	College of Agriculture.....	14,000 00	26,431 95	15,300 98
3	Demonstrations in Animal Husbandry.....	7,000 00	3,521 54	3,478 46
4	Demonstrations in Dairying.....	6,652 31	4,810 26	1,842 05
5	Demonstrations in Field Husbandry and Weed Control.....	10,000 00	8,481 32	1,518 68
6	Co-operation in Production and Marketing.....	6,000 00	3,771 26	2,228 74
7	Demonstration Trains.....	10,000 00	5,016 32	4,983 68
8	Veterinary Short Courses.....	1,000 00	500 00	500 00
	Total Grant.....	61,152 31		
	Balance Sec. 2, brought forward April 1, 1914.....	27,732 93		
		\$88,885 24	\$53,214 89	\$35,670 35

In Saskatchewan, no record of expenditure of the federal subsidy of 1913-14. amounting to \$54,296.29, was kept separate from the expenditure of the provincial appropriations for agriculture, and therefore no detailed statement for that year can be given.

DETAILS OF EXPENDITURE OF GRANT OF 1914-15 TO MARCH 31, 1915.

1. School Courses in Agriculture and Domestic Science.

Grant, 1914-15.. . . . .	\$	6,500 00	
Expended to March 31, 1915.. . . . .			\$ 682 24
Balance unexpended March 31, 1915.. . . . .			5,817 76
Total.. . . . .	\$	6,500 00	\$ 6,500 00
Miss Twiss, Director of Household Science, salary (3 months), \$399.99, expenses, \$94.40.. . . . .	\$		494 39
Printing and distribution of bulletin "Tree Planting".. . . . .			172 00
Incidentals.. . . . .			15 85
Total.. . . . .	\$		682 24

2. College of Agriculture.

Grant, 1914-15.. . . . .	\$	14,000 00	
Balance forward, April 1, 1914.. . . . .		27,732 93	
Expended to March 31, 1915.. . . . .			\$ 26,431 95
Balance unexpended March 31, 1915.. . . . .			15,300 98
Total.. . . . .	\$	41,732 93	\$ 41,732 93

Salaries of Instructors (additional) :—

J. M. Smith, Assistant Professor Agricultural Engineering.. . . . .	\$	1,950 00
R. K. Baker, Assistant Professor Poultry.. . . . .		1,950 00
A. E. Hennings, Assistant Professor Physics.. . . . .		1,950 00
A. M. Shaw, Assistant Professor Animal Husbandry.. . . . .		2,175 00
G. H. Cutler, Second Professor Field Husbandry.. . . . .		2,575 00
S. L. Basterfield, Research Assistant Chemistry.. . . . .		1,125.00
T Thorwaldsen, Assistant Professor Chemistry .. . . . .		1,350 00



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2. College of Agriculture.—Continued.

W. J. H. Tisdale, Assistant Professor Animal Husbandry.. . . . .	\$ 1,350 00	
K. G. MacKay, Assistant Professor Dairying.. . . .	1,000 00	
J. Cameron, Research Assistant Field Husbandry.	265 00	
M. Henne and H. Saville, Assistants Field Husbandry.. . . . .	916 21	
G. Fountain and S. Wright, Assistants Field Husbandry.. . . . .	541 52	
Soil Analysis Assistants.. . . . .	1,300 00	
		\$ 18,447 73
Soil analysis apparatus.. . . . .		1,750 18
Women's work, salaries and expenses—		
Miss DeLury, Director, salary.. . . . .	\$ 1,600 00	
Miss Harrison, Lecturer and field work.. . . .	1,000 00	
Mrs. Thomas, Assistant at Short Courses, expenses and fee.. . . . .	224 00	
Mrs. Howell Smith, Assistant at Short Courses, expenses and fee.. . . . .	77 20	
Mrs. Archibald, Assistant at Short Courses, expenses and fee.. . . . .	50 00	
Mrs. Storer, Assistant at Short Courses, expenses and fee.. . . . .	23 00	
Bulletins.. . . . .	275 00	
Travelling expenses.. . . . .	382 13	
		3,631 33
Home economics.. . . . .		338 45
Winter short courses and extension work in rural districts.. . . . .		2,264 26
Total.. . . . .		\$ 26,431 95

Professor Cutler is engaged in the work of cereal improvement; Messrs. Cutler, Smith, Baker, and Shaw all assist at the short courses and on the Farming Special, and attend meetings; Prof. Shaw judged and lectured at ploughing matches; Prof. Baker had charge of the poultry demonstration car; Prof. Shaw took charge of the College exhibit at Regina. Prof. Tisdale is chiefly employed in addressing extension meetings. He takes the animal husbandry work at the outside short courses, and acts as judge at fairs. Prof. MacKay instructs at dairy courses, short courses and on Live Stock train; Prof. Hennings is engaged in teaching and in soil analysis work; Prof. Thorwaldsen teaches of chemistry and conducts work on soil analysis; Messrs. Saville, Henne, Wright and Fountain assist in the field husbandry work; other assistants are engaged in analytical work. Miss DeLury directs the women's work from the University. Miss Harrison is engaged most of the time travelling among the Women's Clubs, where she lectures and assist the progress of the movement.

3.—Live Stock Demonstrations.

Grant, 1914-15.. . . . .	\$ 7,000 00	
Expended to March 31, 1915.. . . . .		\$ 3,521 54
Balance unexpended March 31, 1915.. . . . .		3,478 46
Total.. . . . .	\$ 7,000 00	\$ 7,000 00

Travelling Instructors—		
E. W. Brett, salary \$406.67, expenses \$563.96.. . . . .	\$	970 63
F. H. C. Green, salary \$100, expenses \$114.20.. . . . .		214 20
J. W. Hunter, salary \$800, expenses \$793.60.. . . . .		1,593 60
J. S. Fulton, salary \$294.19, expenses \$448.92.. . . . .		743 11
Total.. . . . .	\$	3,521 54



4.—*Demonstrations in Dairying.*

Grant, 1914-15.. . . . .	\$ 6,652 31	
Expended to March 31, 1915.. . . . .		\$ 4,810 26
Balance unexpended March 31, 1915.. . . . .		1,842 05
Total.. . . . .	\$ 6,652 31	\$ 6,652 31

Instructors—

W. A. McCorkell, salary \$932.28, expenses \$296.81.. . . . .	\$ 1,339 09
J. A. MacDonald, salary \$1,250, expenses \$503.62.. . . . .	1,753 62
Jas. Graham, salary \$549.03, expenses \$400.25.. . . . .	949 28
Operating dairy cars, expenses.. . . . .	641 42
Dairymen's Convention, expenses.. . . . .	126 85
Total.. . . . .	\$ 4,810 26

5.—*Demonstrations in Weed Control.*

Grant, 1914-15.. . . . .	\$ 10,000 00	
Expended to March 31, 1915.. . . . .		\$ 8,481 32
Balance unexpended March 31, 1915.. . . . .		1,518 68
Total.. . . . .	\$ 10,000 00	\$ 10,000 00

Field Representatives—

A. J. McPhail, salary \$536.67, expenses \$363.29.. . . . .	\$ 899 96
J. G. Rayner, salary \$1,083.33, expenses \$1,087.72.. . . . .	2,171 05
E. H. Hawthorne, salary \$1,070, expenses \$902.65.. . . . .	1,972 65
T. L. Guild, salary \$543.33, expenses \$450.48.. . . . .	993 81
W. Betts, salary \$621.30, expenses \$544.55.. . . . .	1,165 85
Motor car.. . . . .	726 85
Weed Inspectors and Agricultural Secretaries, expenses of Con- vention.. . . . .	551 15
Total.. . . . .	\$ 8,481 32

6.—*Co-operation in Production and Marketing.*

Grant, 1914-15.. . . . .	\$	6,000 00	
Expended to March 31, 1915.. . . . .			\$ 3,771 26
Balance unexpended March 31, 1915.. . . . .			2,228 74
Total.. . . . .	\$	6,000 00	\$ 6,000 00
W. W. Thomson, Director, salary.. . . . .			\$ 1,500 00
“ “ expenses.. . . . .			451 25
W. G. Mawhinney, Assistant, salary.. . . . .			432 79
“ “ expenses.. . . . .			161 62
Government Printer, bulletins, etc.. . . . .			1,180 95
Incidentals.. . . . .			44 00
Total.. . . . .			\$ 3,771 26

7.—*Demonstration Trains.*

Grant, 1914-15.. . . . .	\$ 10,000 00	
Expended to March 31, 1915.. . . . .		\$ 5,016 32
Balance unexpended March 31, 1915.. . . . .		4,983 68
Total.. . . . .	\$ 10,000 00	\$ 10,000 00
Salaries.. . . . .		\$ 1,234 50
Sustenance and travelling expenses.. . . . .		3,005 70
Printing.. . . . .		2,151 05
Equipment.. . . . .		489 59
Feed for live stock and incidentals.. . . . .		135 48
		\$ 7,016 32
Refunded from Provincial Treasury.. . . . .		2,000 00
Total.. . . . .		\$ 5,016 32



SESSIONAL PAPER No. 15c

8.—Veterinary Short Courses.

Grant, 1914-15.. . . . .	\$ 1,000 00	
Expended to March 31, 1915 .. . . .		\$ 500 00
Balance unexpended March 31, 1915.. . . .		500 00
Total.. . . . .	\$ 1,000 00	\$ 1,000 00
Saskatchewan Veterinary Association grant.. . . .		\$ 500 00

AGRICULTURAL AID GRANT, 1912.

SUMMARY STATEMENT.

Section No.	Classification.	Grant.	Expended.
		\$ cts.	\$ cts.
1	College of Agriculture.....	15,000 00	15,000 00
2	Weed Control.....	3,000 00	3,000 00
3	Dairying.....	4,000 00	4,000 00
4	Poultry.....	500 00	500 00
5	Live Stock.....	4,296 29	4,296 29
6	Winter Fair Board.....	5,000 00	5,000 00
7	Horse Breeders' Association.....	500 00	500 00
8	Cattle " ".....	1,000 00	1,000 00
9	Sheep " ".....	500 00	500 00
10	Swine " ".....	500 00	500 00
		\$34,296 29	\$34,296 29

COMPARATIVE STATEMENT OF EXPENDITURE OF 'PROVINCIAL FUNDS  
FOR AGRICULTURAL PURPOSES FOR THE YEARS 1912, 1913, 1914,  
AND ESTIMATED EXPENDITURE FOR 1915.

Service.	1912-13. To Feb. 28.	1913-14, To April 30 (14 mos.)	1914-15, To April 30.	1915-16, To April 30 (estimated).
	\$ cts.	\$ cts.	\$ cts.	\$ cts.
Department—Salaries and General expenses..	28,620 37	41,186 38	39,536 09	40,155 00
General Agricultural interests—				
Agricultural Societies; Provincial Organ- ization; Grants; Contingencies.....	47,684 15	56,148 90	67,739 52	73,600 00
Live Stock Industry.....	28,603 84	68,575 84	23,593 85	25,600 00
Dairy and Poultry Industries.....	266,124 63	471,272 25	84,600 63	88,000 00
Agricultural Statistics and Publicity.....	27,328 20	33,413 43	36,404 16	29,300 00
Bacteriological Laboratory.....	6,571 11	8,111 11	8,443 74	8,400 00
Weed Control and Game Protection.....	14,228 46	18,398 52	19,588 94	22,900 00
Bureau of Labour—				
Farm and domestic labour and factory inspection.....	27,194 84	55,542 00	8,968 35	8,900 00
Miscellaneous Services—				
Vital statistics; Natural History, Scholar- ships, Brands, etc., expenses under Agricultural Instruction Act.....	16,023 95	27,892 19	24,352 72	26,000 00
Totals.....	462,379 55	780,540 62	337,228 00	322,855 00
Less Revenue.....	263,216 05	552,340 78	179,291 51	100,500 00
	199,163 50	228,199 84	175,936 49	222,355 00
Education Dept.—				
College for Agricultural Extension.....	24,000 00	24,000 00	24,000 00	24,000 00
Manual training and Domestic Science organization.....				1,800 00
Grand Total.....	\$223,163 50	\$252,199 84	\$181,936 49	\$248,155 00



## ALBERTA.

The subsidy provided under the Agricultural Instruction Act and its allotment in 1914-15:—

For operation of Schools of Agriculture.. . . .	\$ 36,000 00
For buildings in connection with Schools of Agriculture.. . . .	6,000 00
For special instructor in dairying, etc.. . . . .	4,000 00
For dairy competition.. . . .	4,000 00
For purchase of books for libraries, Schools of Agriculture.. . . .	1,000 00
Miscellaneous.. . . .	310 41
Total.. . . .	\$ 51,310 41

### OUTLINE OF WORK PERFORMED.

#### SCHOOLS OF AGRICULTURE.

In 1912-13, three Schools of Agriculture were established in connection with the Provinces' Demonstration Farms at Claresholm, Olds and Vermilion. The understanding with the Federal authorities was that the province should provide the main buildings and that the subsidy should be drawn upon to provide their equipment and maintenance. Practically the whole of the grants of 1913-14 and 1914-15 were used in connection with these schools. They were put into operation in the autumn of 1913.

The school at Claresholm was intended to serve that portion of the province south of the Canadian Pacific Railway line through Calgary; the school at Olds was considered as belonging to the central part of the province, while the school at Vermilion was to draw its students from the eastern and northern portions of Alberta. Thus the students had comparatively easy access to institutions of agricultural education. Nor was this the only consideration. It was anticipated that the young people would more readily attend smaller schools, situated under rural conditions and where board and lodgings could be obtained at more reasonable rates than would be the case with a large college in a large town. The school buildings are large and well lighted. Each contained, as originally constructed, two lecture rooms, animal husbandry room, science room, dairy, two household science rooms, besides a large assembly room, offices and library. On account of the large attendance and the demand for improved equipment, two additional buildings have been provided at moderate cost, one for farm mechanics (carpentry and forge work); and one for live stock judging and seed instruction.

The stock for the work in animal husbandry is obtained from the adjoining demonstration farm, or from local breeders, and at times some is shipped in for temporary use by the Department of Agriculture. The science rooms are well stocked with all that is necessary for simple demonstration and analyses. The dairy rooms are fitted out with equipment for milk-testing, for separating and for churning. All the leading firms have installed separators for the use of the students. The kitchens in the household science flats are each equipped to handle twenty-four students. The sewing rooms contain tables and sewing machines. There are also rooms furnished as dining rooms. Farm mechanics is taught in a separate building of two stories, having a carpenter shop upstairs and a blacksmith shop below. The former has twenty-four benches and full carpenter tool equipment, also a woodworker for general use. The blacksmith shop is furnished with eighteen forges and vises, with all the necessary tools for general blacksmithing.



SESSIONAL PAPER No. 15c

The work of the schools is divided into two main divisions: (1) 'Agriculture, and (2) Household Science.

1. *Agriculture*.—The aim of this course is to make practical farmers of the young men who take it. The work embraces animal husbandry, field husbandry and farm mechanics, but due attention is given to farm management, farm book-keeping, agricultural physics, chemistry, bacteriology, mathematics, and English. The regular school staff is assisted by members of the staff of the Department of Agriculture and of the University of Alberta. The course in Agriculture is of two years' duration and carries with it an associate diploma. There is no entrance examination and there are no fees. The work aims to furnish the standard demanded for entrance into third year work at an agricultural college.

2. *Household Science*.—The aim of this department is to train young women in the economic management of the home. The course covers a period of two sessions of five months each. The first is devoted to home problems, and is planned in the interest of those who have only one year to spare. The work of the second year is designed, in addition to the home-makers' course, to assist those who are preparing to teach domestic science.

In addition to the regular courses, a short course of six weeks is held in each school during the winter months. This course is devoted wholly to practical work, and is complete in itself.

The schools completed their second teaching year on March 26, 1915. The number of graduates was as follows:—

	Young men.	Young women.
Claresholm.. . . .	28	8
Olds.. . . .	22	8
Vermilion.. . . .	15	8
Total.. . . .	65	24

Most of the young men who graduated returned to the farm, but a number intend to enter the College of Agriculture at the University in the autumn of 1915.

The enrolment in the different schools over the two seasons was as follows:—

	1913-14.	1914-15.
Claresholm—		
Boys.. . . .	71	75
Girls.. . . .	35	33
Olds—		
Boys.. . . .	61	88
Girls.. . . .	39	35
Vermilion—		
Boys.. . . .	34	43
Girls.. . . .	28	10
Total.. . . .	268	284

A considerable number of those in the second year came over from the first year. This reduces the number of students in attendance to between four hundred and fifty and five hundred. The attendance is regarded as remarkable, and it may safely be concluded that the schools are fitting aptly to a direct need, or they would not enjoy the patronage they do. Of the boys, about ten per cent came from the immediate vicinity, and the remainder from a distance. Nearly all of the latter came from rural districts. In ages the range was from sixteen years to about thirty years, while in academic standing the range was from a few in the third form to a few who had actually taught school. It is the opinion of the principals that the age limit of fourteen years is too low—the students who made the greatest progress and



6 GEORGE V, A. 1916

gave the most satisfaction, being those who were in the twenties, young men with a purpose, who realized that they had a fine last opportunity and who were anxious to get as much as possible from the course. The students of each school organized into a self-governing body, forming its own constitution, drawing up most of the rules and regulations, conducting its own school functions and imposing all necessary discipline. The plan has been very satisfactory.

The system on which agricultural education in Alberta is based differs somewhat from that in vogue in other Canadian provinces. The schools have succeeded because of their definite and specific aim in relation to country needs, and likewise because their establishment on the Demonstrations Farms has provided the atmosphere necessary to good results. It is the aim of these schools to take the boy where it finds him, and to meet, as the town high schools do not meet, the case of the country boy who wishes to follow country work. It likewise fills the gap between the common school and the university school of agriculture.

These schools are bound to exert an invaluable influence on the rural life of the province. If, in the opinion of the authorities the Agricultural Aid Act, and its successor, the Agricultural Instruction Act, did nothing more for a province than make such schools possible, they may well be said to have accomplished a magnificent purpose.

#### TEACHING STAFF.

##### *Claresholm School.*

William John Stephen, B.A., B.S.A., Principal and Instructor in Field Husbandry.

Peter McDonald Abel, B.S.A., Instructor in Animal Husbandry.

Oliver Stanley Longman, B.S.A., Instructor in Farm Mechanics.

James Crawford Hooper, M.A., Instructor in English and Elementary Science.

##### *Olds School.*

William James Elliott, B.S.A., Principal and Instructor in Animal Husbandry. Instructor in Field Husbandry.

George Richard Holeton, B.Sc., Instructor in Farm Mechanics.

James Fowler, M.A., B.Sc., Instructor in English and Elementary Science.

##### *Vermilion School.*

F. S. Grisdale, B.S.A., Principal and Instructor in Field Husbandry.

James Gordon Taggart, B.S.A., Instructor in Animal Husbandry.

Graham Lawson Shanks, B.S.A., Instructor in Farm Mechanics.

Edward Stanley Hopkins, B.S.A., Instructor in English and Elementary Science.

##### *Travelling Instructors.*

Miss M. M. Goldie, Instructor in Household Science.

Miss M. Lawson, Assistant Instructor in Household Science.

H. S. Pearson, Provincial Dairy Instructor.

G. W. Scott, Provincial Dairy Instructor.

A. W. Foley, Provincial Superintendent of Poultry.

Dr. Percy Talbot, Provincial Veterinarian.

##### *Special Lecturers.*

(1) S. G. Carlyle, Superintendent of Demonstration Farms.

(2) Special Instructor in Dairy Farming.

(3) W. F. Stevens, Live Stock Commissioner.

(4) C. P. Marker, Provincial Dairy Commissioner.

(5) Alex. Galbraith, Special Lecturer on Horses.



SESSIONAL PAPER No. 15c

Professor Grisdale was appointed principal of the school at Vermilion in the spring of 1915, to take the place of Professor Howes, who had been appointed Dean of the Faculty of Agriculture. Previously Professor Grisdale occupied the position of Instructor in Field Husbandry at Olds. At the same time, Mr. H. A. Craig, Superintendent of Demonstration Farms, was appointed Deputy Minister of Agriculture, his place being filled by Mr. S. G. Carlyle.

During the whole year the various officers at each school act in the adjacent territory in much the same way as the district representatives do in Ontario, holding meetings and advising with farmers. This work is facilitated through each school having a motor car.

The schools are used also for holding provincial agricultural meetings. Thus at Olds the secretaries of Agricultural Societies convened for their annual conference, as did the officers of the Women's Institutes. This was one reason for providing each school with an assembly hall. Patriotic workers have also utilized the schools.

A series of twenty lectures on agricultural subjects under the direction of Hon. Duncan Marshall, Minister of Agriculture for Alberta, was given in the Board of Trade rooms, Calgary, between February 8 and February 20, 1915. The Minister and nine lecturers from the provincial agricultural schools and demonstration farms took part, their subjects including dairy cattle, horses, beef cattle, poultry, sheep enterprises, mutton breeds and their management, grading up a dairy herd, foodstuffs available to the Alberta poultryman, hog production, cutting up and curing of pork, soil cultivation, grain judging, dairy production, and a resume of the work of the Department of Agriculture. The total attendance was 2,400, an average of 120 for each lecture.

LOCATION OF DEMONSTRATION FARMS.

1. *Claresholm School and Farm*.—Claresholm is in the district of Macleod on the Macleod-Calgary branch of the Canadian Pacific railway, 82 miles south of Calgary and 26 miles north of Macleod.

2. *Olds School and Farm*.—Olds is in the district of Red Deer on the Calgary-Edmonton branch of the Canadian Pacific railway, 58 miles north of Calgary and 136 miles south of Edmonton.

3. *Vermilion School and Farm*.—Vermilion is in the district of Victoria on the Canadian Northern railway, 130 miles east of Edmonton.

4. *Medicine Hat Farm*.—Medicine Hat is in the district of Medicine Hat on the main line of the Canadian Pacific railway, and the Crowsnest Pass branch (via Lethbridge and Macleod) 180 miles east of Calgary.

5. *Stony Plain Farm*.—Stony Plain is in the district of Edmonton on the Grand Trunk Pacific and the Canadian Northern, 21 miles west of Edmonton.

6. *Sedgewick Farm*.—Sedgewick is in the district of Strathcona on the Wetaskiwin extension of the Canadian Pacific railway, 90 miles southeast of Edmonton.

7. *Athabaska Landing Farm*.—Athabaska Landing is in the district of Edmonton, on the Edmonton-Athabaska branch of the Canadian Northern, 96 miles north of Edmonton.

COLLEGE OF AGRICULTURE.

By Order in Council of April 29, 1915, the Alberta Government took a definite step towards the establishment of a college of agriculture which will be a part of the University of Alberta, situated at Edmonton. Professor E. A. Howes, B.S.A., principal of the School of Agriculture, at Vermilion, was appointed dean of the faculty of agriculture. Mr. George Harcourt, B.S.A., Deputy Minister of Agriculture, was appointed assistant to the dean.



Dean Howes is a graduate of the Ontario Agricultural College. Prior to his college training, he was a leader in consolidated school work in Ontario, and for a number of years was principal of the Macdonald Consolidated School, at Guelph. Upon leaving the Ontario Agricultural College he became associated with the Seed Branch at Ottawa.

He afterwards accepted the principalship of the Vermilion School of Agriculture, in Alberta, at its inception two years ago.

In the agricultural department of the University only advanced work will be taught, beginning with the third year. The Board of Agricultural Education will fix the course of study in both schools of agriculture and the university, but it has been settled that to become eligible for entry to the latter, students must have taken the two-year course in one of the schools of agriculture. For the opening of the university there are in readiness sixty-seven graduates of these schools. The college course covers three years.

*Dairy Tests and Competitions.*—The pure-bred dairy herd test conducted under the direction of S. G. Carlyle of the Department of Agriculture closed on April 1. The competition is open to all owners of pure-bred dairy cows in the province and is conducted under rules substantially the same as those of the Canadian Record of Performance Tests.

The awards were as follows:—

First—Glen White, Lacombe.. . . . .	13,124
Second—Norman Michener, Red Deer.. . . . .	12,551
Third—H. J. Smith, Clover Bar.. . . . .	11,416
Fourth—C. Julian Sharman, Red Deer.. . . . .	10,162

It is the intention of the department to discontinue the testing of pure-bred herds. This work is covered by the Canadian Record of Performance Tests. Additional attention will be given to the tests for grade herds as this work touches a much larger constituency and applies to representative and average conditions to a greater extent than the pure-bred competitions do. The schools of agriculture are made the centres from which the tests are directed and carried on and the schools through their graduates and also their general influence on the people of the districts in which the schools are situated have been able to do a great deal towards strengthening and giving effect to cow-testing work.

Competitions closing on April 1 were conducted at each of the schools at Claresholm, Olds and Vermilion. The competitions were open to all students who had attended the schools and likewise to farmers within a radius of twenty miles of one of the schools. The number of cows that may be entered is not limited, only grade cows are admitted and the competition runs for two hundred and forty days from the date of freshening. The department furnishes scales and sheets and conducts a regular inspection. This year, all the competitions were well filled. Ten prizes were awarded at each centre and the prizes were all live-stock prizes, the first four being calves varying from one year old down to four months, of the Shorthorn, Jersey, Ayrshire and Holstein breeds; four other were of young pigs and two were of pens of poultry. The nature of the prizes has given great interest to the competitions, especially as many of the competitors are young people, who in winning a prize are attaining to the status of owners of good stock.



SESSIONAL PAPER No. 15c

FEDERAL SUBSIDY OF 1914-15.  
SUMMARY STATEMENT TO MARCH 31, 1914.

Sec. No.	Classification.	Grant, 1914-1915.	Balance Forward, April 1, 1914	Total.	Expended to Mar. 31, 1915	Unexpended Balance, Mar. 31, 1915
		\$ cts.	\$ cts.	\$ cts.	\$ cts.	\$ cts.
1	Schools of Agriculture—					
	(a) Operation...	36,000 00	0 37	36,000 37	37,483 04	
	(b) Equipment...		3,574 49	3,574 49	1,334 58	2,239 91
	(c) Buildings.....	6,000 00		6,000 00	7,120 61	
	(d) Library.....	1,000 00		1,000 00	236 40	763 60
2	Demonstration Farms.		4,472 70	4,472 70	4,162 80	309 90
3	Instruction in Dairying.	4,000 00	43 98	4,043 98	3,971 43	72 55
4	Domestic Science.....		576 74	576 74	562 79	13 95
5	Dairy Competitions	4,000 00	473 71	4,473 71	2,016 00	2,457 71
6	Miscellaneous..	310 41	467 40	777 81		777 81
	Totals..	51,310 41	9,609 39	60,919 80	56,887 65	6,635 43
Over-expended balances—						
Sec. 1a						\$1,482 67
Sec. 1c.						1,120 61
						\$2,603 28

FEDERAL SUBSIDY OF 1913-14.  
SUMMARY STATEMENT TO MARCH 31, 1914.

Section No.	Classification.	Grant 1913-14.	Expended to Mar. 31, 1914.	Balance Unexpended Mar. 31, 1914.
		\$ cts.	\$ cts.	\$ cts.
1	Schools of Agriculture	31,500 00		
	(a) Operation..... 18,000		17,999 63	0 37
	(b) Equipment..... 9,000		5,425 51	3,574 49
	(c) Buildings..... 4,500		5,101 34	
2	Demonstration Farms.....	8,000 00	3,527 30	4,472 70
3	Instruction in Dairying..	3,000 00	2,956 02	43 98
4	Domestic Science.....	2,000 00	1,423 26	576 74
5	Dairy Competitions...	1,000 00	526 29	473 71
6	Miscellaneous.....	594 95	127 55	467 40
	Totals. ....	46,094 95	37,086 90	9,609 39

DETAILS OF EXPENDITURE OF GRANTS OF 1913-14 AND 1914-15, TO MARCH 31, 1915.

1.—Schools of Agriculture.

(a) OPERATION.

Grant, 1913-14.. . . . .	\$ 18,000 00	
“ 1914-15.. . . . .	36,000 00	
Expended to March 31, 1915.. . . . .		\$ 55,482 67
Balance overexpended March 31, 1915.. . . . .	1,482 67	
Total.. . . . .	\$ 55,482 67	\$ 55,482 67



## DEPARTMENT OF AGRICULTURE

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1.—*Schools of Agriculture.*—Continued.

(a) OPERATION.—(Continued.

	1913-14.	1914-15.
Staff salaries.. . . . .	\$ 9,640 28	\$ 27,463 19
G. W. Scott, Provincial <sup>1</sup> Dairy Instructor (part salary) .. . . . .	.....	300 00
W. H. McNally, Services, teaching, (part salary) .. . . .	.....	200 00
A. V. Mitchener, Services, teaching, (part salary) .. . . .	.....	100 00
Miss Mary MacIsaacs, Supt. Women's Institutes, (part salary) .. . . .	.....	100 00
Miss Lottie Wood, Stenographer, salary.. . . .	96 75	—
Miss Edith Murray, Stenographer, salary.. . . .	265 00	—
Miss Dorothy Thomson, Stenographer, salary.. . . .	20 00	—
Total.. . . . .	\$ 10,022 03	\$ 28,163 19
Sundry persons, expenses.. . . . .	2,292 96	2,183 32
Printing, postage, stationery, advertising.. . . .	2,100 00	1,040 53
Fuel, light, water.. . . . .	507 85	915 39
Labour, materials.. . . . .	2,351 07	1,737 26
Furnishings, supplies, seeds and plants, etc.. . . . .	166 38	2,393 85
Miscellaneous.. . . . .	559 34	441 14
Expenses Board of *Agricultural Education Conference.. . . . .	.....	325 72
Students' fares.. . . . .	.....	98 00
Stove, seeder, meter, etc.. . . . .	.....	184 64
Total.. . . . .	\$ 17,999 63	\$ 37,483 04

(b) **EQUIPMENT.**

Grant, 1913-14.. .. .	\$	9,000 00	
Expended to March 31, 1915.. .. .		.....	\$ 6,760 09
Balance unexpended March 31, 1915.. .. .		.....	2,239 91
Total.. .. .	\$	9,000 00	\$ 9,000 00

Supplies and furnishings.. . . . .	\$	1,729	89
Labour and materials, 3 schools (principally dairy buildings)..		1,190	48
Miscellaneous.. . . . .		121	97
Equipment—			
Three motor cars.. . . . .	\$	2,180	00
Three typewriters.. . . . .		345	00
Pump and cooler.. . . . .		47	60
Steam boilers.. . . . .		166	66
Stoves.. . . . .		133	81
Pumps.. . . . .		39	20
Motor accessories.. . . . .		105	40
Tanks.. . . . .		119	35
Cheese presses.. . . . .		112	50
Machinery and farm implements.. . . . .		434	35
Various other items.. . . . .		33	88
			<hr/>
		3,717	75
Total.. . . . .	\$.	6,760	09

(c) BILLINGS.

Grant, 1913-14.. . . . .	\$ 4,500 00	
" 1914-15.. . . . .	6,000 00	
Expended to March 31, 1915.. . . . .		\$ 11,620 61
Balance overexpended March 31, 1915.. . . . .	1,120 61	
	<hr/>	<hr/>
Total.. . . . .	\$ 11,620 61	\$ 11,620 61



SESSIONAL PAPER No. 15c

1.—Schools of Agriculture.—Continued.

(c) BUILDINGS.—Continued.

Labour, blacksmith and carpenter shops, Vermilion and Olds, and extras at Claresholm....	.....	\$	1,875 77
Materials, blacksmith and carpenter shops, Vermilion and Olds, and extras at Claresholm.....	.....		2,464 84
Contracts—			
Ferguson and Knight, contract price, blacksmith and carpenter shop, Claresholm.. . . . .	\$	1,450 00	
Binnacombe and Glassford, box-stall barn at Vermilion, on account.. . . . .		1,930 00	
T. H. Patterson, box-stall barn at Olds, contract price.. . . . .		1,875 00	
S. M. Ferguson, box-stall barn at Claresholm, contract price.. . . . .		2,025 00	
			7,280 00
Total.. . . . .	\$		11,620 61

(d) LIBRARY.

Grant, 1914-15.. . . . .	\$	1,000 00	
Expended to March 31, 1915.. . . . .			\$ 236 40
Balance unexpended March 31, 1915.. . . . .			763 60
Total.. . . . .	\$	1,000 00	\$ 1,000 00

This expenditure was entirely for books.

2. Demonstration Farms.

Grant, 1913-14.. . . . .	\$	8,000 00	
Expended to March 31, 1915.. . . . .			\$ 7,690 10
Balance unexpended March 31, 1915.. . . . .			309 90
Total.. . . . .	\$	8,000 00	\$ 8,000 00

Purchase price and keep of animals, less refund for animals sold.. \$ 7,690 10

This appropriation was for the purpose of purchasing additional stock for the demonstration farms. The following animals were purchased by the superintendent in Ontario and Quebec:—

1 Pure-bred Shorthorn bull.. . . . .	\$	162 50
11 " cows.. . . . .		2,350 00
1 " Ayrshire bull.. . . . .		125 00
1 " " cow.. . . . .		400 00
31 Grade Holstein and Ayrshire cows.. . . . .		3,810 00
Freight, feed, attendance, testing, registering, commissions, etc..		824 60
Total.. . . . .	\$	7,690 10

The above animals were distributed as follows: Athabaska Landing, 24; Stony Plain, 5; Sedgewick, 2; Claresholm, 14; Olds, 5; Vermilion, 4; Medicine Hat, 9.

3.—Instruction in Dairying.

Grant, 1913-14.. . . . .	\$	3,000 00	
" 1914-15.. . . . .		4,000 00	
Expended to March 31, 1915.. . . . .			\$ 6,927 45
Balance unexpended March 31, 1915.. . . . .			72 55
Total.. . . . .	\$	7,000 00	\$ 7,000 00



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*3.—Instructions in Dairying.—Continued.*

S. G. Carlyle, Superintendent, salary (\$3,000) .. . . .	\$	5,162 50
"                    "                    expenses .. . . .		1,146 82
G. H. Scott, Instructor, expenses .. . . .		44 30
Demonstration farms, expense account .. . . .		280 00
Equipment and supplies .. . . .		130 73
Miscellaneous .. . . .		163 10
Total .. . . .	\$	6,927 45

*4.—Domestic Science.*

Grant, 1913-14 .. . . .	\$	2,000 00	
Expended to March 31, 1915 .. . . .			\$ 1,986 05
Balance unexpended March 31, 1915 .. . . .			13 95
Total .. . . .	\$	2,000 00	\$ 2,000 00
Miss M. M. Goldie and Miss N. Lawson, Instructors, salaries .. . . .	\$	1,283 40	
Miss M. M. Goldie, expenses .. . . .		258 09	
Miss N. Lawson, expenses .. . . .		16 30	
			\$ 1,557 79
Supplies and utensils .. . . .			376 85
Miscellaneous .. . . .			51 41
Total .. . . .	\$		1,986 05

Miss Goldie and Miss Lawson are now attached to the schools at Olds and Claresholm respectively, and their salaries for 1914-15 were charged to that account.

*5.—Dairy Competitions.*

Grant, 1913-14 .. . . .	\$	1,000 00	
"    1914-15 .. . . .		4,000 00	
Expended to March 31, 1915 .. . . .			\$ 2,542 29
Balance unexpended March 31, 1915 .. . . .			2,457 71
Total .. . . .	\$	5,000 00	\$ 5,000 00
Purchase of stock for prizes .. . . .	\$	446 53	
Sundry persons, expense accounts .. . . .		748 03	
Stenographic assistance .. . . .		110 00	
Prizes .. . . .		120 00	
Equipment (scales) .. . . .		542 16	
Supplies, furnishings and miscellaneous .. . . .		498 69	
Printing and stationery .. . . .		76 88	
Total .. . . .	\$		2,542 29

*6.—Miscellaneous.*

Grant, 1913-14 .. . . .	\$	594 95	
"    1914-15 .. . . .		310 41	
Expended to March 31, 1914 .. . . .			\$ 127 55
Balance unexpended March 31, 1915 .. . . .			777 81
Total .. . . .	\$	905 36	\$ 905 36
Express charges .. . . .	\$	51 55	
Light and fittings, rink, Claresholm .. . . .		76 00	
Total .. . . .	\$		127 55

Nothing expended in 1914-15.



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FEDERAL APPROPRIATION TO THE PROVINCE OF ALBERTA UNDER THE  
AGRICULTURAL AID ACT, 1912.

	Vote.	Expenditure.
Dairy Shorthorns.. . . . .	\$ 10,000 00	\$ 15,568 23
Women's Institutes and Domestic Science.. . .	3,500 00	3,655 98
Live Stock Demonstration Train.. . . . .	5,000 00	5,023 79
Excursions to Experimental Farms.. . . . .	600 00	262 89
To increase stock of Poultry Station.. . . . .	2,500 00	2,499 80
Exhibit at Dry Farming Congress.. . . . .	2,000 00	2,416 91
Expenses bringing in cows to sell to farmers..	2,000 00	
Miscellaneous.. . . . .	494 95	
	<hr/>	
	\$ 26,094 95	
Accrued interest.. . . . .	199 05	
Sales of Animals.. . . . .	3,800 12	
Balance credited to Dairy Shorthorn Herd Nov. 30, 1915.. . . . .		666 52
	<hr/>	
Total.. . . . .	\$ 30,094 12	\$ 30,094 12

COMPARATIVE STATEMENT OF EXPENDITURE OF PROVINCIAL FUNDS  
FOR AGRICULTURAL PURPOSES, FOR THE YEARS  
1912, 1913, 1914, AND 1915.

Service.	1912.	1913.	1914.	1915
	\$ cts.	\$ cts.	\$ cts.	\$ cts.
Civil Government.....	29,521 21	30,329 30	36,911 29	48,329 94
Live Stock—				
Live Stock and Agricultural Institutes and Asso- ciations; Fat Stock Shows; Destruction of Wolves; Stock Inspection; Brands and Brand Book; Grants to Live Stock Associations; Spring Stock Show.....	36,619 46	44,789 38	60,981 07	47,736 83
Fairs and Exhibitions; Official Judges, Production of Pure Seed Grain, and Seed Fair, Fairs Associa- tion, etc.....	79,096 73	95,826 51	107,365 49	117,226 18
Poultry—				
To encourage Poultry Industry; Grant to Poultry Association.....	5,778 84	8,972 65	8,547 83	8,300 37
Dairying—				
Advances to Creameries; to encourage dairy work	80,561 90	111,710 36	175,024 84	249,851 53
Demonstration Farms—				
Administration and Operation.....	35,911 07	73,620 58	66,840 44	70,231 95
Schools of Agriculture—				
Operation; Agricultural instruction; Scholarships	2,075 85	3,605 95	1,375 40	20,503 11
Statistics; Protection of Game; Prairie Fires.....	23,549 90	34,270 19	48,373 26	45,371 79
Grants; United Farmers, Irrigation Association, Women's Institutes, Destruction of Noxious Weeds, Natural History Society.....	34,943 08	30,591 45	31,708 08	27,640 66
Bacteriological and Pathological Work.....	8,358 86	7,705 80	9,000 00	9,000 00
Extension of Markets.....	824 60			
Sundries and contingencies.....	1,170 75	1,003 51	500 00	1,694 19
	<hr/>	<hr/>	<hr/>	<hr/>
	338,412 25	442,425 68	546,627 70	645,786 55
Less Revenue.....	62,386 70	202,268 00	272,318 00	342,086 00
	<hr/>	<hr/>	<hr/>	<hr/>
	276,025 55	240,157 68	\$274,309 70	\$303,700 55



## BRITISH COLUMBIA.

The subsidy provided under the Agricultural Instruction Act and its allotment in 1914-15:—

Farm Demonstration and Experimental Plots, Alfalfa Demonstration and Experimental Plots, Soil and Crop Investigation Work, Co-operative Variety Tests, Dairy Farm Demonstration Work, Field Crop Competitions.. . . . .	\$ 10,000 00
Poultry Demonstration Stations.. . . . .	1,500 00
Boys' and Girls' Field Crop Competitions.. . . . .	1,115 00
Cow Testing Association Work.. . . . .	3,000 00
Horticultural Demonstration Plots.. . . . .	4,000 00
Experimental Work in Vegetable Growing and Greenhouse work..	1,500 00
Pathological and Entomological Investigation Work.. . . . .	500 00
Expenses of Fruit Packing Competitions and Fruit Packing Schools.. . . . .	1,000 00
Appointment of Instructors in the different phases of Agriculture and Horticulture.. . . . .	8,819 00
Towards preparing and printing Bulletins and Circulars of Instruction and Education and Miscellaneous Printing.. . . .	181 00
Appointment of Instructors towards the suppression of Noxious Weeds.. . . . .	4,000 00
Department of Education, Agricultural Instruction in Schools.. .	15,000 00
Miscellaneous.. . . . .	2,184 38
Total.. . . . .	\$ 52,799 38

### OUTLINE OF WORK PERFORMED.

The province of British Columbia received as its share of the annual allotment of the subsidy under the Agricultural Instruction Act, the sum of \$52,799.38 for 1914-15. This money is spent partly by the Department of Agriculture in its various lines of instruction and demonstration work, and partly by the Department of Education, to supplement the grants made from provincial funds.

In 1915 the Department of Education decided to include agriculture as an optional subject in the high schools. School-gardening is already being emphasized in the public schools as a method of conducting nature-study and instruction in elementary agriculture. The older boys and girls are also encouraged to enter the field crop competitions under the direction of the Farmer's Institutes. It is anticipated that the interest created by such means in agricultural studies will lead many to pursue this branch of study after leaving the public school. As this will necessitate the appointment of teachers who are trained specialists in agriculture, it will not be possible to have this subject taught in all the high schools for some time to come.

The high schools of the province are distributed as follows: Victoria (Victoria College); Vancouver (Vancouver College); New Westminster, Nanaimo, Nelson, Rossland, Cumberland, Vernon, Kaslo, Chilliwaack, Grand Forks, Kamloops, Revelstoke, Armstrong, Golden, Duncan, Salmon Arm, Peachland, Penticton, Kelowna, Summerland, and North Vancouver.

In 1914, Mr. J. W. Gibson, M.A., formerly science master in the Ottawa Normal School, was appointed director of elementary agricultural education for the province. The position thus created was provided for under the Federal subsidy. Following this appointment, a summer school for teachers in rural science was held at Victoria in July, 1914, with the object of qualifying teachers to take up high school work in



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agriculture. The response on the part of the teachers was marked. One hundred and seventy-one completed the course and were given interim certificates. These teachers were offered a second, and more advanced course in 1915, and the preliminary course was continued. Teachers who complete the second course will be given a rural science diploma, which will entitle them to special grants as teachers of that subject.

In addition to teaching agriculture proper, these teachers will assist in the regular science work of the high schools. They will also spend a part of each week supervising the work in elementary agriculture and school gardening in the public schools. In high schools where rural science is taught, extension classes will be opened for young men who are not regular students and who can give only a portion of their time to such studies.

In brief the plans of the department are as follows: The special training of teachers in rural science; special grants to teachers and school boards where rural science is taught, grants to school boards in aid of general school ground improvement, establishing a provincial schools' nursery, agricultural instruction in high schools with direct supervision of related public school work.

*Boys' and Girls' Crop Competitions:* The need for boys' and girls' clubs, or like associations, has been felt in British Columbia. No distinct clubs of this nature have as yet been formed, but a foundation has been laid by creating within the Farmers' Institutes a junior phase, thus making use of the older members of a community to offer encouragement and suggestions to any boys' and girls' organizations. Hitherto the work has been confined to potato competitions. Junior potato competitions were held by twenty farmers' institutes last year. The number has increased for 1915, which is a good indication that there is an increased interest. A bulletin containing a brief description of the approved methods of potato culture and the rules and regulations of the competition is sent to each boy and girl entered in the competition. In the same bulletin is a summary of last year's competition.

A stipulation worthy of note in the junior competition was that all competitors within an institute district had to use the same variety; it being recognized that to reduce the strains grown to a limited number of standard varieties adapted to the district would materially assist in marketing, especially in the districts getting into the car-shipping class. The awards are based on three scores, a field score, a harvested product score, and a score on a financial statement. The financial statement is sent in on card forms. These when filled out by the competitors are simply statements of the expenses and receipts in handling the plots entered in competition. All competitors use the uniform tariff of charges contained on the card, and the statements must be certified correct by a representative of the local Farmers' Institute.

In 1914, each entrant was required to send a twenty-pound exhibit from his plot to the Dominion Exhibition at Victoria. In the present year, the exhibits will be sent to the provincial seed fairs at New Westminster and Armstrong, or wherever local seed fairs are held by the Farmers' Institute, where the awards will be made. Transportation charges are paid. To the boy securing the highest total score, including field score, tuber score, and value of report, the department offers a pure-bred heifer calf, of the breed of his choice, and to the girl taking the highest total score, a high-grade sewing machine. Wherever possible, the opportunity is taken after the awards are made to discuss with the boys and girls the mistakes made and the lessons learned. This year the question of introducing other crops will be taken up. Arrangements are now being made whereby the junior divisions of the Farmers' Institutes will be regularly organized into clubs.

*Field Crop Competitions.*—The field crop competitions in potatoes have become an important phase of the work of the department. In 1914, forty-two competitions in potatoes were conducted through the Farmers' Institutes. The announcement of



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this competition was published in a bulletin form containing a brief description of the most approved cultural methods, and copies were distributed to all members of Farmers' Institutes. The competitive spirit led large numbers of farmers to handle their potato crop along approved lines. Many valuable demonstrations resulted, the more noticeable of which were fertilizing tests and the value of Bordeaux mixture as a spray. In many cases good results were also reported in using the formalin solution as a preventive for scab. The minimum size of a plot entered in the competition was one-half acre. Awards were based on a field score. A bonus is offered to any competitor who will send in a satisfactory statement of the cost of production of the crop entered, not only to provide valuable data, but to encourage the farmers to keep crop records.

*Dairy Demonstrations.*—The British Columbia Dairymen's Association conducts annually a dairy farm competition, in which awards are given for the best equipped and conducted plants and the best managed farms and herds. The average number of contestants is from twelve to fifteen. Expenses are met by the grant. Owners of grade milch cows who form themselves into associations may secure the services of testers sent out by the department. Official tests of pure-bred herds are also conducted. The transportation of testers is paid and an allowance of one dollar per day is made from the grant towards the salaries of the men conducting official tests.

*Poultry Work.*—Egg-laying contests open to all comers are conducted annually. Poultry breeding stations have been established at a number of points, pens of pure-bred stock being supplied to men selected to carry on the work.

*Demonstration Plots, etc.*—The demonstration work carried on includes the operation of six small stations to demonstrate systems of cropping best suited to the districts where they are located. These stations are located at Chilliwack, Armstrong, Rosehill, Edgewood, Grand Forks and Rock Creek. Land of poor to average quality was chosen in each case, and an endeavour is being made to restore the land to profitable production by methods within the reach of the average farmer. At Armstrong the land chosen was regarded locally as an almost unworkable clay; at Rock Creek, nineteen consecutive crops of grain had been grown. The plots were chosen with the idea of solving, if possible, difficulties that were common to the districts. In all cases the department had the advice of an advisory committee of three appointed by the local Farmers' Institute. This committee is not only a safeguard against errors in detail that might creep in through lack of a thorough knowledge of the district, but it also tends to secure the sympathy and co-operation of the members of the institute.

To demonstrate alfalfa twelve plots have been located at different points throughout the province. At all interior points the alfalfa did well but the success of the plots in coast districts was not so marked.

Silo demonstration work played an important part in the year's programme. Five silos were built by the department and filled with corn. A test was also made to ascertain the possibilities of sweet-curing of clover in a silo. The silo demonstrations received the enthusiastic support of the farmers in all districts where demonstrations were held. The aim of the department was to erect cheap but efficient silos of a type that could be constructed by the farmers themselves.

Miscellaneous experiments were carried on by the department, including clover pasture for hogs, kale growing, approved grass-seed mixtures and fertilizers for fodder crops.



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*Seed Distribution.*—In order to stimulate the production of better seed in the province, the department distributed registered seed on a fairly extensive scale during the late winter and spring of 1915. All seed was distributed through the farmers' institute organization. The following amounts and kind of seed were distributed:—

	Pounds.
Oats, Registered Banner (3rd generation) . . . . .	37,700
Oats, Gold Rain . . . . .	81,600
Wheat, Marquis . . . . .	17,000
Corn, Minnesota (special strain) . . . . .	3,075
Corn, Northwestern Dent (special strain) . . . . .	3,180
Corn, Quebec 28 (Acclimated) . . . . .	1,000
Mangel Seed Sludgstrop (registered Denmark) . . . . .	2,240
Alfalfa Northern Crown Variegated . . . . .	2,500
Alfalfa, Grimm . . . . .	300

To stimulate the growing of the two important crops, corn and alfalfa, the department undertook to distribute small lots of these seeds. Five pound packages of alfalfa seed were sent out to eight members of any institute whose names were forwarded to the department through the institute. Three varieties of corn in three pound lots were also sent out to the first eight applications received through the institute. Report forms, to be filled out and forwarded to the department, were sent with the corn and alfalfa. 560 applicants secured 5 lbs. alfalfa, 528 applicants secured 3 lbs. corn (3 varieties).

From these reports the department will be able to ascertain fairly accurately as to the prospect of successful alfalfa and corn production in the various districts of the province; and at the same time data is secured as to the merits of the various corn varieties for the different districts.

*Horticultural Demonstration Plots and Vegetable and Greenhouse Experiments.*—Five acre experimental plots are being operated at four points in northern British Columbia to demonstrate the culture of vegetables, small fruits, grains and grasses as adapted to the districts.

A demonstration and experiment station is being conducted at Summerland in the Southern Okanagan valley, in co-operation with Mr. J. L. Hilborn. This plot will be operated for three years and demonstrate cultural methods and varieties of market garden and small fruit crops.

Experiments with fertilizers for small fruits and vegetables and in the spraying of vegetables were conducted at Ladner, Hammond, Mission, Chilliwack, Salmon Arm and Armstrong.

An experiment is being conducted at Kelowna in the culture of onions, with a view to prolonging the storage life of the product and thus extending the period of marketing.

The horticulturists and their assistants give demonstrations and practical instruction in pruning, spraying, thinning and other orchard operations, besides assisting in the regular work connected with the demonstration plots at those points, and in co-operative experiments.

The following assistants were appointed in 1914 at the points named, and their remuneration provided by the federal subsidy: L. F. Burrows, Salmon Arm; H. M. Scott and E. C. Hunt, Nelson; H. M. Howitt, Prince Rupert.



FEDERAL SUBSIDY OF 1914-15.

SUMMARY FINANCIAL STATEMENT TO MARCH 31, 1915.

Section No.	Classification.	Grant 1914-15.	Expended Mar. 31, 1915.	Balance Unexpended Mar. 31, 1915.
		\$ cts.	\$ cts.	\$ cts.
1	Farm Demonstrations, etc.....	10,000 00	9,881 11	118 89
2	Poultry Demonstration Stations.....	1,500 00	1,491 03	8 97
3	Children's Crop Competitions.....	1,115 00	1,115 00	
4	Cow-Testing Associations.....	3,000 00	499 98	2,500 02
5	Horticultural Demonstrations.....	4,000 00	2,651 90	1,348 10
6	Vegetable Experiments.....	1,500 00	1,478 55	21 45
7	Insects and Plant Diseases—investigations.	500 00		500 00
8	Fruit-Packing.....	1,000 00		1,000 00
9	Agricultural Instructors.....	8,819 00	8,813 66	5 34
10	Printing and Preparing Bulletins, etc.	181 00	181 00	
11	Weed Suppression.....	4,000 00	3,998 32	1 68
12	Agricultural Instruction in Schools.	15,000 00	11,613 60	3,386 40
13	Miscellaneous.....	2,184 38	2,084 20	753 56
	Total Grant.....	52,799 38		
	Balances from 1913-14 Grant, debited to Miscellaneous, as authorized.....	635 38		
	Totals.....	53,452 76	43,808 35	9,644 41

DETAILS OF EXPENDITURE, APRIL 1, 1914, TO MARCH 31, 1915.

1.—Farm Demonstration and Experimental Plots.

Grant, 1914-15.. . . . .	\$ 10,000 00	
Expended to March 31, 1915.. . . . .		\$ 9,881 11
Balance unexpended March 31, 1915.. . . . .		118 89
Total.. . . . .	\$ 10,000 00	\$ 10,000 00
Salaries—		
R. J. Ferris, Silo operator.. . . . .	\$ 300 00	
W. Newton, Instructor, soil and crop.. . . . .	1,010 32	
		\$ 1,310 32
Seed, supplies, fencing.. . . . .		3,883 49
Freight.. . . . .		517 41
Labour.. . . . .		1,383 37
Equipment.. . . . .		256 66
Prizes, crop competitions, etc.. . . . .		4,520 00
Miscellaneous expenses.. . . . .		342 21
Rent of land for demonstration plots.. . . . .		308 00
Judging expenses.. . . . .		743 67
Total.. . . . .		\$ 13,265 13
Less refund seed grain sold.. . . . .		3,444 82
Total.. . . . .		\$ 9,820 31

The Department operates two silo filling outfits, supplies plans of silos, sends men to superintend erection and later superintends filling—all for demonstration purposes, to encourage silo construction and corn growing. W. Newton is permanently employed in soil and crop work, crop demonstrations and field crop competitions.



## 2.—Poultry Demonstration Stations.

Total.. . . .	\$	1,500 00	\$	1,500 00
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Total	\$ 1,491 03
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Total.. . . . .	\$	1,115 00	\$	1,115 00
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Total.....	\$	1,115 00
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Total.. . . . .	\$ 3,000 00	\$ 3,000 00
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8499 23

### 5.—*Horticultural Demonstration Plots.*

Total.. . . . .	\$	4,000 00	\$	4,000 00
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Total.. . . . .	\$	2,651 90
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Grant is engaged for six months at Bella Coola supervising demonstration plots.



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*6.—Vegetable Growing and Greenhouse Work.*

Grant, 1914-15.. . . . .	\$ 1,500 00	
Expended to March 31, 1915.. . . . .		\$ 1,478 55
Balance unexpended March 31, 1915.. . . . .		21 45
Total.. . . . .	\$ 1,500 00	\$ 1,500 00

<i>Re</i> Experiments in growing vegetables and small fruits, as per		
3-year agreement, June 8, 1914.. . . . .	\$ 1,000 00	
Purchase onions for storage experiment.. . . . .		184 60
Rental storage warehouse for experiment.. . . . .		29 00
Building storage room for experiment.. . . . .		188 45
Supplies and labour, Oak Bay plot.. . . . .		76 50
Total.. . . . .	\$ 1,478 55	

J. L. Hillborn, of Summerland, who is paid \$1,000 a year by contract—made a demonstration station of his farm; vegetables and crops under glass; a very great extension of production resulted.

Onions stored at Kelowna as demonstration.

*9.—Instructors in Agriculture.*

Grant, 1914-15.. . . . .	\$ 8,819 00	
Expended to March 31, 1915.. . . . .		\$ 8,813 66
Balance unexpended March 31, 1915.. . . . .		5 34
Total.. . . . .	\$ 8,819 00	\$ 8,819 00

## Salaries—

R. C. Abbott, Markets Commissioner.. . . . .	\$ 450 00	
R. H. Baird, Weed Inspector.. . . . .	90 00	
W. T. Brookes, Veterinary Inspector.. . . . .	533 30	
W. H. Cartwright, Agricultural Surveyor.. . . . .	100 00	
Mrs. M. S. Davies, Sec. Board of Women's Institutes.. . . . .	160 00	
M. H. Howitt, Assistant Horticulturist.. . . . .	700 00	
E. C. Hunt, Assistant Horticulturist.. . . . .	200 00	
Miss B. Livingstone, Lecturer, Women's Institutes.. . . . .	308 00	
W. T. McDonald, Live Stock Commissioner.. . . . .	54 15	
D. H. McKay, Veterinary Inspector.. . . . .	600 00	
R. L. Ramsay, Agriculturist.. . . . .	625 00	
M. H. Ruhmann, Assistant Plant Pathologist.. . . . .	500 00	
H. M. Scott, Assistant Horticulturist.. . . . .	41 90	
M. Sparrow, Veterinary Inspector.. . . . .	600 00	
W. H. Stroyan, Caretaker, Egg Contest.. . . . .	150 00	
Miss A. M. Taylor, Lecturer, Women's Institutes.. . . . .	104 00	
H. E. Upton, Assistant Poultry Instructor.. . . . .	33 35	
Madame M. Grohe, Dressmaking.. . . . .	66 40	
E. Weddell, Enumerator, Farm Surveys.. . . . .	100 00	
R. M. Winslow, Provincial Horticulturist.. . . . .	21 66	
	\$ 5,437 76	
Expenses of above.. . . . .		3,375 90
Total.. . . . .	\$ 8,813 66	

*10.—Preparing and Printing Bulletins.*

Grant, 1914-15.. . . . .	\$ 181 00	
Expended to March 31, 1915.. . . . .		\$ 181 00
Total.. . . . .	\$ 181 00	\$ 181 00
Printing 1,000 copies short course programme.. . . . .	\$ 16 00	
Expenses, revision of Bulletin No. 30.. . . . .		165 00
Total.. . . . .	\$ 181 00	



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11.—Weed Suppression.

Grant, 1914-15.. .. .	\$ 4,000 00	
Expended to March 31, 1915.. .. .		\$ 3,998 32
Balance unexpended March 31, 1915.. .. .		1 68
Total.. .. .	\$ 4,000 00	\$ 4,000 00

Salaries—

H. V. Ackland, Weed Instructor and Inspector.. ..	\$ 90 00	
F. Adie, .. ..	186 00	
R. H. Baird, .. ..	153 87	
R. H. Hickey, .. ..	264 20	
C. Hodgkinson, .. ..	240 00	
W. Johns, .. ..	180 00	
H. Wren, .. ..	180 00	
		\$ 1,294 07
Labour.. .. .		631 90
Expenses of Inspectors.. .. .		2,072 35
Total.. .. .		\$ 3,998 32

12.—Agricultural Instruction in Schools.

Grant, 1914-15.. .. .	\$ 15,000 00	
Expended to March 31, 1915.. .. .		\$ 15,000 00
Total.. .. .	\$ 15,000 00	\$ 15,000 00

The following statement shows that the Department of Education expended the sum of \$24,506.90, of this amount \$15,000 was provided from the Federal grant and the balance from provincial appropriations.

ELEMENTARY AGRICULTURE.

Summer school for Teachers—

Teachers' transportation.. .. .	\$ 1,256 00	
“ per diem allowance while attending summer school.. .. .	4,769 00	
Supplies and equipment.. .. .	1,041 00	
Instructors and assistants.. .. .	533 00	
Caretakers and office expenses.. .. .	152 00	
Allowance for expenses to Victoria School Board.. .. .	100 00	
		\$ 7,851 00
Grants to school gardens.. .. .		420 00
Expenses in connection with school gardening at Victoria Normal school.. .. .		250 00
Salary of Director (9 months).. .. .	\$ 2,250 00	
Travelling expenses.. .. .	562 60	
Books, periodicals and office equipment.. .. .	280 00	
		\$ 3,092 60
Total.. .. .		\$ 11,613 60

DOMESTIC SCIENCE.

Summer School for Teachers—

Teachers' transportation.. .. .	\$ 792 00	
“ per diem allowance while attending summer school.. .. .	3,147 00	
Supplies and equipment.. .. .	162 00	
Instructors and assistants.. .. .	882 00	
Caretakers and office expenses.. .. .	150 00	
		\$ 5,133 00
Cost of equipment and supplies for 6 domestic science centres.. .. .		4,502 00
Salaries of Instructors (7 months).. .. .	\$ 2,500 00	
Travelling expenses (7 months) .. .. .	818 30	
		3,318 30
Total.. .. .		\$ 12,953 30



13.—Miscellaneous.

Grant, 1914-15..	\$	799	38	
Balance brought forward from 1913-14..		653	38	
Transferred from Section No. 3..		1,385	00	
Expended to March 31, 1915..				\$ 2,145 00
Balance unexpended March 31, 1915..				692 76
Total..	\$	2,837	76	\$ 2,837 76

Women's Institutes—				
Conference expenses..	\$	47	10	
Flower show grant..		62	00	
Mde. Grohe, Instructor in dressmaking..		93	80	
Prizes Women's Institute competition..		75	00	
Expenses, Board of Women's Institutes..		35	00	
Mrs. A. M. Taylor, Lecturer, salary and expenses..		211	75	
Salaries, Women's Institute secretaries..		1,062	35	
Total..	\$	1,587	00	
Lantern slides, Farmers' Institutes..				
	\$	114	15	
Fruit storage..		18	90	
Summerland pre-cooling plant..		351	40	
Labour re weeds..		12	75	
Poultry for breeding stations..		60	80	
Total..	\$	2,145	00	

FEDERAL SUBSIDY OF 1913-14.  
SUMMARY FINANCIAL STATEMENT.

Sec- tion No.	Classification.	Grant.	Expended to May 8, 1915.	Balance Un- expended.
		\$ cts.	\$ cts.	\$ cts.
1	Short Courses, Women's Institutes.....	2,498 30	2,498 30	
2	Short Courses, Farmers' Institutes.....	4,992 37	4,992 37	
3	Demonstrations, Farm Crops.....	7,478 04	7,478 04	
4	Demonstrations, Dairying.....	4,994 62	4,994 62	
5	Demonstrations, Horticulture.....	4,993 75	4,993 75	
6	Cow-Testing Association Work.....	2,499 34	2,499 34	
7	Instructors and Inspectors in Agr.....	7,499 25	7,499 25	
8	School Gardens.....	999 65	999 65	
9	Demonstration, Field Work.....	2,496 96	2,496 96	
10	Stock Judging Competitions.....	990 60	990 60	
11	Fruit Packing Competitions.....	410 00	410 00	
12	Preparing Bulletins.....	2,495 15	2,495 15	
13	Miscellaneous.....	4,986 73	4,333 35	653 38
		47,334 76	46,681 38	653 38

FEDERAL SUBSIDY OF 1913-14.  
DETAILS OF EXPENDITURE.

1.—Short Courses, Domestic Science.

Grant, 1913-1914..	\$2,498	30	
Expended to May 8, 1915..			\$2,498 30
Total..	\$2,498	30	\$2,498 30
Salaries—			
Madame M. Grohe, instructor in dressmaking...	\$676	00	
Miss B. Livingstone, lecturer..	616	00	
Miss A. M. Taylor, lecturer..	484	00	
			\$1,776 00
Expenses..			686 75
Prizes.....			35 55
Total..			\$2,498 30



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2.—Farmers' Institute, Short Courses.

Grant, 1913-14.. . . . .	\$4,992 37	
Expended to May 8, 1915.. . . . .	.....	\$4,992 37
Total.. . . . .	\$4,992 37	\$4,992 37
Salaries—		
L. F. Burrows, horticulturist .. . . . .	\$100 00	
W. H. Cartwright, agricultural surveyor.. . . . .	300 00	
Mrs. M. S. Davis, secretary, Board of Women's Institutes.. . . . .	40 00	
L. Harris, foul brood inspector.. . . . .	375 00	
M. H. Howitt, horticulturist.. . . . .	100 00	
W. T. McDonald, Live Stock Commissioner....	75 81	
D. H. McKay, veterinary inspector .. . . . .	360 00	
R. L. Ramsay, agriculturist.. . . . .	345 83	
M. H. Ruhmann, plant pathologist.. . . . .	100 00	
W. J. Sheppard, foul brood inspector.. . . . .	375 00	
M. Sparrow, veterinary inspector .. . . . .	360 00	
T. D. Todd, foul brood inspector .. . . . .	375 00	
H. E. Upton, poultry instructor.. . . . .	33 35	
R. M. Winslow, provincial horticulturist.. . . . .	75 81	
		\$3,015 80
Expenses, short courses.. . . . .		1,912 62
Lantern slides.. . . . .		63 95
Total.. . . . .		\$4,992 37

3.—Demonstrations—Farm Crops.

Grant, 1913-14.. . . . .	\$7,478 04	
Expended to May 8, 1915.. . . . .	.....	\$7,478 04
Total.. . . . .	\$7,478 04	\$7,478 04
Salaries—		
R. J. Ferris, silo demonstrator.. . . . .	\$150 00	
W. H. Stroyan, caretaker, egg contest... . . . .	525 00	
		\$675 00
Materials, seeds and supplies for experimental plots and poultry competition.. . . . .		5,925 32
Labour.. . . . .		1,594 56
Poultry grants and premiums.. . . . .		175 00
Freight and incidentals.. . . . .		770 53
Total.. . . . .		\$9,140 41
Less refunds on seed.. . . . .		1,662 37
Total.. . . . .		\$7,478 04

4.—Demonstrations in Dairying.

Grant, 1913-14.. . . . .	\$4,994 62	
Expended to May 8, 1915.. . . . .	.....	\$4,994 62
Total.. . . . .	\$4,994 62	\$4,994 62
Salaries—		
W. H. Cartwright, agricultural surveyor.. . . . .	\$200 00	
L. Harris, foul brood inspector .. . . . .	250 00	
D. H. McKay, veterinary inspector.. . . . .	240 00	
R. L. Ramsay, agriculturist.. . . . .	250 00	
M. H. Ruhmann, plant pathologist.. . . . .	200 00	
H. M. Scott, horticulturist.. . . . .	50 00	
W. J. Sheppard, foul brood inspector.. . . . .	250 00	
M. Sparrow, veterinary inspector .. . . . .	240 00	
F. D. Todd, foul brood inspector .. . . . .	125 00	
H. E. Upton, poultry instructor.. . . . .	13 34	
H. Wren, weed inspector.. . . . .	90 00	
F. L. Goodman, cold storage investigation.. . . . .	53 33	
		\$1,961 67



4.—*Demonstrations in Dairying*.—Continued.

Expenses.. . . . .	\$ 2,051 70
“ judging.. . . . .	737 60
Dairy competition prizes.. . . . .	200 00
Supplies and labour.. . . . .	38 45
Miscellaneous.. . . . .	5 20
Total.. . . . .	\$4,994 62

5.—*Demonstrations in Horticulture*.

Grant, 1913-14.. . . . .	\$4,993 75	
Expended to May 8, 1915.. . . . .	.....	\$4,993 75
Total.. . . . .	\$4,993 75	\$4,993 75
Salaries—		
L. F. Burrows, horticulturist.. . . . .	\$326 65	
S. Le C. Grant.. . . . .	200 00	
M. H. Howitt, horticulturist.. . . . .	300 00	
E. C. Hunt.. . . . .	100 00	
D. Peddie.. . . . .	236 63	
A. Richardson.. . . . .	300 00	
A. H. Ruhmann, plant pathologist.. . . . .	100 00	
H. M. Scott, horticulturist .. . . . .	336 75	
J. Gibb, instructor in packing.. . . . .	92 75	
		\$1,992 73
Expenses.. . . . .		1,147 50
Supplies.. . . . .		1,454 12
Labour.. . . . .		263 45
Equipment.. . . . .		60 95
Prizes.. . . . .		75 00
Total.. . . . .		\$4,993 75

6.—*Cow-testing*.

Grant, 1913-14.. . . . .	\$2,499 34	
Expended to May 8, 1915.. . . . .	.....	\$2,499 34
Total .. . . . .	\$2,499 34	\$2,499 34
Salaries and wages—		
E. E. Carncross, cow tester.. . . . .	\$312 91	
C. H. Gravely, “ .. . . . .	527 00	
D. James, “ .. . . . .	130 00	
J. B. Watson, “ .. . . . .	330 00	
W. R. Wiltshire, “ .. . . . .	330 00	
E. Pearson, “ .. . . . .	23 15	
G. Sangster, “ .. . . . .	20 00	
G. H. Thornberry, “ .. . . . .	231 20	
D. E. MacKenzie, “ .. . . . .	25 00	
F. Adie, weed inspector.. . . . .	87 00	
C. Hodgkinson, weed inspector.. . . . .	30 00	
		\$2,046 26
Expenses.. . . . .		52 85
Testing milk.. . . . .		126 06
Supplies.. . . . .		170 35
Miscellaneous.. . . . .		103 82
Total... . . . .		\$2,499 34

7.—*Instructors and Inspectors in Agriculture*.

Grant, 1913-14.. . . . .	\$7,499 25	
Expended to May 8, 1915.. . . . .	.....	\$7,499 25
Total.. . . . .	\$7,499 25	\$7,499 25



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7.—Instructors and Inspectors in Agriculture—Continued.

Salaries—

M. L. Bird, Inspection Officer.. . . .	\$183 00	
G. G. Brown, Inspection Officer.. . . .	100 00	
J. M. Brydon, Inspection Officer.. . . .	50 00	
J. H. Burnett, Enumerator, farm survey.. . . .	120 00	
W. H. Cartwright, Agricultural Surveyor.. . . .	100 00	
W. J. Graham, Inspection Officer.. . . .	200 00	
W. P. Kearns, Enumerator, farm survey.. . . .	240 00	
C. E. McCubbing, Inspection Officer.. . . .	50 00	
D. H. McKay, Veterinary Instructor.. . . .	360 00	
R. A. Robley, Enumerator, farm survey.. . . .	360 00	
M. H. Ruhmann, Plant Pathologist.. . . .	200 00	
A. G. Simms, Inspection Officer.. . . .	100 00	
M. Sparrow, Veterinary Instructor.. . . .	271 00	
W. H. Stroyan, caretaker, egg contest.. . . .	75 00	
F. D. Todd, Foul Brood Inspector.. . . .	125 00	
J. B. Watson, Cow tester.. . . .	300 00	
E. Weddell, Enumerator.. . . .	240 00	
E. W. White, Inspection Officer.. . . .	200 00	
W. E. Wiltshire, Cow tester.. . . .	300 00	
		\$3,574 00

Salaries and Expenses—

E. Bamhill, Inspection Officer . . . . .	\$142 00	
H. E. Creese, Inspection Officer.. . . .	53 25	
Capt. De Salis, Enumerator.. . . .	245 95	
J. H. Ellison, Enumerator.. . . .	314 15	
W. C. W. Fosbery, Enumerator.. . . .	275 75	
F. H. Getchell, Inspection Officer.. . . .	25 80	
F. L. Goodman, Pre-Cooling Expert.. . . .	36 65	
L. R. Hauhill, Inspection Officer . . . . .	52 50	
R. H. Helmer, Inspection Officer.. . . .	32 25	
E. A. Orchard, Enumerator.. . . .	162 40	
L. W. Patton, Enumerator.. . . .	367 30	
C. M. Rendell, Enumerator.. . . .	122 60	
S. Robinson, Instructor Pruning.. . . .	49 25	
Expenses, sundry persons.. . . .	2,023 30	
Labour.. . . .	22 10	
Total.. . . .		\$7,499 25

8.—School Gardens.

Grant, 1913-14.. . . .	\$999 65	
Expended to May 8, 1915.. . . .	.....	\$999 65
Total.. . . .	\$999 65	\$999 65
Veterinary and Apiary Inspectors and Instructors—Salaries.. . .		\$505 00
Expenses.. . . .		494 65
Total.. . . .		\$999 65

9.—Field Demonstrations.

Grant, 1913-14.. . . .	\$2,496 96	
Expended to May 8, 1915.. . . .	.....	\$2,496 96
Total.. . . .	\$2,496 96	\$2,496 96
Silo demonstration outfit.. . . .		\$ 300 00
Judging expenses.. . . .		616 55
Expenses.. . . .		177 45
Freight.. . . .		85 80
Labour, materials and supplies.. . . .		559 01
Prizes.. . . .		210 00
Silo filler.. . . .		548 15
Total . . . . .		\$2,496 96



*10.—Stock Judging Competitions.*

Grant, 1913-14.. . . . .	\$990 60	
Expended to May 8, 1915.. . . . .	.....	\$990 60
Total .. . . . .	\$990 60	\$990 60

## Salaries—

L. Harris, Apiary Inspector and Instructor.. . .	\$187 50
W. J. Sheppard, Apiary Inspector and Instructor.	62 50
F. D. Todd, Apiary Inspector and Instructor..	125 00
C. A. Cocks, Inspection Officer.. . . . .	20 50
R. T. Evans, " .. . . . .	16 25
W. M. Frith, " .. . . . .	12 50
R. D. Kerr, " .. . . . .	1 25
W. H. Winster, " .. . . . .	28 75

## Salaries and Expenses—

G. E. Wilkinson, Inspection Officer.. . . . .	156 50
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## Expenses—

L. F. Burrows, Assistant Horticulturist.. . . .	60 90
Expenses, Inspection Officers, Apiary Inspectors and Enumerators.. . . . .	318 95
	\$990 60

Total.. . . . .	\$990 60
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*11.—Fruit-packing Competitions.*

Grant, 1913-14.. . . . .	\$ 410 00	
Expended to May 8, 1915.. . . . .	.....	\$ 410 00
Total.. . . . .	\$ 410 00	\$ 410 00
Balance unexpended May 8, 1915, carried forward to "Miscellaneous" 1914-15.. . . .		\$ 410 00

*12.—Bulletins and Circulars.*

Grant, 1913-14.. . . . .	\$ 2,495 15	
Expended to May 8, 1915.. . . . .	.....	\$ 2,495 15
Total.. . . . .	\$ 2,495 15	\$ 2,495 15
Miss A. M. Taylor, Lecturer, Women's Institutes.. . . . .	\$ 264 00	
Preparing Bulletin No. 53.. . . . .	50 00	
Printing judging books.. . . . .	81 00	
Printing, etc.. . . . .	2,100 15	
Total.. . . . .		\$ 2,495 15

*13.—Miscellaneous.*

Grant, 1913-14.. . . . .	\$	4,986 73	
Expended to May 8, 1915.. . . . .		.....	\$ 4,333 35
Balance unexpended May 8, 1915, carried for- ward to "Miscellaneous" 1914-15.. . . . .		.....	653 38
Total.. . . . .	\$	4,986 73	\$ 4,986 73
Salaries, enumerators farm survey.. . . . .	\$	2,420 90	
Expenses, enumerators.. . . . .		1,292 55	
Supplies and expenses, pre-cooling investigations.. . . . .		304 20	
Fees, statistical report.. . . . .		300 00	
Incidentals.. . . . .		15 70	
Total.. . . . .	\$		\$ 4,333 35



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AGRICULTURAL AID GRANT, 1912.  
To June 17, 1915.

Section No.	Classification.	Grant.	Expended June 17, 1915.	Balance June 17, 1915.
		\$ cts.	\$ cts.	\$ cts.
1	Women's Institutes, etc.....	1,000 00	994 05	5 95
2	Fruit Packing and Grading.....	1,000 00	990 00	10 00
3	Purchase of Grade Dairy Cattle.....	4,000 00	*4,000 00	
4	(a) Demonstrations in field crops and live stock.....	10,000 00	4,366 07	2,044 13
	(b) Introduction of Grade or pure-bred stock.....		3,589 80	
5	Importation of pure-bred stock.....	11,000 00	8,707 54	2,292 46
6	Miscellaneous.....	334 76	332 85	1 91
	Totals.....	27,334 76	22,980 31	4,354 45

\*Not yet adjusted.

BRITISH COLUMBIA.

COMPARATIVE STATEMENT OF EXPENDITURE OF PROVINCIAL FUNDS FOR AGRICULTURAL PURPOSES FOR THE YEARS 1912, 1913, 1914 AND ESTIMATED EXPENDITURE FOR 1915.

Service.	1912 To Mar. 31.	1913 To Mar. 31.	1914 To Mar. 31.	1915 To Mar. 31.	1915-16 To Mar. 31. (Estimated)
	\$ cts.	\$ cts.	\$ cts.	\$ cts.	\$ cts.
Salaries—Agricultural Branch, Dept. of Finance and Agriculture.....	30,061 06	37,851 78	53,755 12	67,288 62	72,428 00
Agricultural Associations.....	72,636 90	87,823 65	67,311 11	41,041 45	50,000 00
Board of Horticulture.....	2,247 20	2,556 65	1,078 25	217 70	500 00
Stock Breeders' Associations.....	1,618 64	4,633 42	2,717 68	1,278 04	
Flockmasters' Association.....	250 00	250 00	250 00	250 00	3,250 00
Dairymen's Association.....	2,249 61	3,062 51	2,999 55	2,096 46	3,000 00
Department of Agriculture—	39,653 14	30,160 87	19,340 31		
Grants to Students; Compensation for Cattle; Services and Expenses, outside; Miscellaneous, Weed Suppression.....				104,021 88	
Panama Exposition.....			24,985 50		92,000 00
Fruit Work—					8,000 00
Fruit Cooling and Storage.....		871 01	2,992 51		
Fruit Exhibitions.....	14,740 86	43,110 28	36,059 28		
Fruit Packing Schools.....		4,567 49	4,043 15		
Inspection Nursery Stock.....		11,681 58	41,216 74	68,335 25	47,750 00
Fruit Growers' Associations.....	2,657 00	4,211 42	6,251 66		
Demonstration Orchards.....	18,267 04	18,071 23	2,242 13		
Farmers' Institutes and Importation of Pure Bred Stock in 1913.....	11,427 30	58,577 05	17,575 75	7,704 60	27,500 00
Women's Institutes.....	3,613 02	4,640 01		4,993 85	
Poultry Association, Grant.....	3,372 21	2,934 64	3,870 86	1,879 91	7,000 00
Poultry Shows.....	2,500 00	3,100 00	4,000 00	4,000 00	
Totals.....	205,293 98	318,103 59	290,789 60	303,107 26	311,428 00



NOVA SCOTIA.

The subsidy provided under the Agricultural Instruction Act, in 1914-15, and its allotment:—

College maintenance.. . . .	\$ 20,000 00
Interest and sinking fund on chemistry and domestic science building (\$70,000 at 20 years) . . . . .	5,500 00
Agricultural education in Rural schools . . . . .	9,000 00
Entomological and Horticultural investigation . . . . .	7,000 00
Dairying (Educational work) . . . . .	3,000 00
Poultry (Educational work) . . . . .	1,500 00
Women's Institutes . . . . .	3,000 00
Short courses . . . . .	3,000 00
Field demonstration work . . . . .	9,000 00
Contingencies . . . . .	144 45
Total . . . . .	\$ 61,144 45

OUTLINE OF WORK PERFORMED.

*College Buildings.*—The department decided in 1914 to add a new building to the Agricultural College buildings at Truro to be devoted to chemistry and domestic science. Hitherto, students had been required to take certain lectures and do laboratory work at the Normal School, some distance from the college. The space available, and the times at which it could be secured, limited instruction and gave no opportunity for carrying on investigation work.

The new science building is 120 feet by 50 feet and contains three stories. The ground floor will be devoted to chemistry, the first floor to the laboratories of the Provincial Entomologist and Plant Pathologist, and the second floor to domestic science work. The building, when completed, will cost \$110,000, which will be paid off from the Agricultural Instruction Act funds at a rate to clear the account in twenty years.

*Agricultural Education in Rural Schools.*—Under a director, the development of agricultural instruction in the rural schools has been marked. During the year ended July, 1914, 63 teachers and schools qualified for the grant at the Rural Science Training School. The schools represented were distributed through fifteen of the eighteen counties of the province.

Other schools have been stimulated by the gifts of seeds, bulbs, flowers, special fertilizers, by circulars of instruction for school and home gardens under school supervision, by the formation of clubs, school garden exhibitions, and by gifts of eggs of improved varieties of fowls to be raised by pupils. As soon as they can be trained, teachers with rural science diplomas will be employed in these schools.

In all these schools the pupils of the section have to make provision for the establishing of a school garden and its heavy work, and to provide a school library with some books referring to rural industries. The Provincial Government aids this work by giving from \$5 to \$10 to the teacher for acting as librarian, according as the library is up to the first or second standard, and provided the annual report is properly made out, and shows at least the prescribed circulation.

The Provincial Department provides entirely for the cost of training the teachers in the Normal College from September to June, and for the payment of their travelling expenses. After the close of the Normal at the end of June, these, together with Normal-trained teachers employed in the public schools, take up the vacation or summer courses which constitute the Rural Science Training School.



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To enlarge the equipment of the Rural Science Training School originally provided by the province, about one thousand dollars' worth of microscopes, books and other apparatus were obtained, which will not have to be duplicated in subsequent years.

*School Gardening and School Fairs.*—In 1914 school fairs were for the first time definitely organized under the Rural Science movement, and the results were considered very satisfactory. Sixty schools exhibited at county fairs, and 13 of these held local fairs in addition. Eleven held local fairs only, making a total of 71 schools engaged in the work, including 1,277 children. The exhibits at local fairs numbered 3,134 and at county fairs 1,585.

In 1914 the Rural Science Department distributed about 20 bushels of seed potatoes, 12 bushels of seed oats, 110 settings of eggs and 15,000 strawberry plants to school children. The products of the first three items were prominent at exhibitions. It is hoped that in the fall the fairs will see products of the strawberry plants in the form of canned or preserved fruit prepared by school children.

In addition to the customary exhibits the children were encouraged to collect material illustrating local or provincial industries. At several of the fairs exhibits of vegetables and fruit were also made by the parents, but were not in competition with those made by the children. This increased the interest taken and the general appearance of the fair, and sometimes created a spirit of friendly rivalry between the children and parents.

The children's plots were inspected by the teachers who remained in the school section, and by a committee of local men, when the teachers did not remain. Where no prizes were offered for the plot, inspection was not followed.

Fairs were conducted at Heatherton, St. Andrews, St. Joseph and Georgeville in Antigonish County, and at Glendale, Cape Breton, by the local clergyman. These originated through an interest created by members of the Agricultural College staff who were doing extension work among the farmers of these districts. In Halifax and New Glasgow, the Women's Council held successful flower shows in connection with the schools.

In 1915 pupils were urged to buy their own seed. Where the teacher believed that outside assistance would really advance the work some assistance was given, as follows:—

Eggs, two to four settings to a school, total 300 settings; strawberry plants, 50 to a child, 200 to a school, total 6,000 plants. Potatoes, one-half bushel to a school, total 20 bushels. Oats, shrubs, seeds, etc., about \$40 worth.

In addition to the foregoing, the Experimental Farm at Nappan sent a three-pound bag of potatoes to each rural science teacher. From the farm were also sent samples of oats, wheat and barley.

*Horticultural and Entomological Investigations:* Fifty per cent of the expenses of maintenance of the Entomology Department are drawn from the Dominion grant. The work undertaken by this department is of several kinds.

(a) Investigation: For the purpose of investigating injurious insects, two field laboratories are in operation, one at Truro and one at Kentville. As this is the first season that the department has undertaken such work on an extensive scale, it must necessarily be of a more or less preliminary character. The general plan, however, is to make a complete study of the various sucking insects which attack the apple and pear. Also the apple maggot, and a few vegetable insects, regarding which, information is urgently required at the present time. This season orchard aphids are being given particular attention.

Preparations are under way for making an exhaustive study of the life history, habits, methods of control, of the False Tarnished Plant Bug, *Lygus invitus*, which has been found to be a source of great loss to Annapolis Valley farmers. This work



will be carried on at the Kentville Station, which is the nearest one to the worst areas of infestation. The field stations are serving a very useful purpose as centres for distributing information regarding insect pests and plant diseases. This line of work has proven so promising that plans have been made to extend it at the expense of our general field inspection, which in some respects has served its purpose. For next year's work on the apple maggot, we have secured a small log cabin at Smith's Cove, Digby, which is to be fitted up as a laboratory for the study of this insect.

In order to have definite figures regarding the profits to be derived from spraying, a five years' lease has been taken of a small orchard near Bridgetown. One-half of this orchard is given the spraying demanded by good orchard practice, and the other is left untouched, the fruit is taken and marketed separately. Experiments in spraying along other lines are being arranged for.

(b) Inspection of Nursery Stock: All nursery stock entering Nova Scotia, passes through the provincial inspection stations at either Truro or Digby, where it is subjected to a thorough examination to determine whether or not it is infested with San José Scale or other injurious pests. In this way it has been possible to shut out a great deal of infested stock.

(c) General Field Inspection (summer work): During the past two years all parts of the province where fruit is grown commercially have been covered by the entomological inspectors, principally for the purpose of locating any cases of San José Scale that may have been imported previous to the inauguration of the inspection system. At the same time, the inspectors take the opportunity to point out to the farmers any cases of insect or fungus outbreaks which happen to come under their notice. In connection with this inspection they have also accomplished what is in effect, a very complete and accurate census of the fruit industry, and the information thus secured has been most useful in carrying on the work of the department. The San José Scale is now pretty well in hand and it is believed to be safe to cut down the amount of field inspection formerly required, concentrating the attention on further importations of infested stock.

(d) Brown Tail Moth Inspection (winter work): This work is under the supervision of the Dominion Entomologist and is carried on co-operatively by the Provincial and Dominion departments. It has been effective to the extent that this dreaded pest has done no appreciable damage in Nova Scotia.

(e) Plant Diseases: In the absence of a provincial plant pathologist the Entomological Department carries on a certain amount of field work along the line of plant diseases. The inspection for Powdery Scab of potatoes destined for export to Bermuda is done by the entomological inspectors, 15,000 barrels having been inspected in the fall of 1914.

A beginning has been made in the work of eliminating the degenerate potato stock, the planting of which has proven disastrous to Bermuda farmers and unprofitable to Nova Scotia potato growers.

(f) Teaching: The work of teaching zoology and entomology to the regular students of the Agricultural College, as well as at the short courses held throughout the province is included in the duties of the Provincial Entomologist.

*Dairy Educational Work:* The Superintendent of Dairying, Mr. W. A. McKay, like all other provincial officers, makes his headquarters at the College at Truro, where he gives instruction to the students. In addition to this he inspects the work carried on throughout the province and gives instruction to the makers at the creameries. He holds meetings and encourages the erection of creameries in suitable localities. The Federal grant provided for part of the salary and expenses of the director and also enabled him to secure an assistant,\* Mr. George A. Clarke, who assisted in instruction at creameries and cheese factories, and who conducted a travelling library in Guysborough county.

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\* Succeeded by W. J. Bird



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In 1914, three new creameries were started in Nova Scotia, making in all 24 cheese factories and creameries. These turned out 913,273 pounds of butter and 134,133 pounds of cheese. This amount will be increased during the season of 1915 by over 40 per cent.

*Poultry Educational Work:* A poultry branch is maintained at the Agricultural College under the direction of J. P. Landry, Superintendent, and grants are made to seven local poultry associations. These were financed by the province. In the year ending September 30, 1914, the amount thus expended was \$2,059.85. When the Federal grant under the Agricultural Instruction Act became available, it was decided to extend the poultry instruction. \$500 was set aside out of the appropriation for 1913-14 and \$1,500 in 1914-15. This enabled the superintendent to hold meetings in various parts of the province and direct the organization of egg circles. Short poultry courses were held in 1914, at Yarmouth, Bridgewater, Shubenacadie and Middle Musquodoboit, and demonstrations in killing and dressing were given at seven other centres. A very important new line of work was the erection of demonstration poultry houses, on which the superintendent makes the following report:—

“I have the pleasure of again placing on record my appreciation of the very generous manner in which the Poultry Department has been dealt with by the Federal Department of Agriculture. By the assistance of the grant received demonstration poultry houses were built in seven different parts of the province. An agreement was entered into in each case that the flocks were to be pure-bred fowl and eggs would be supplied to the farmers from these flocks. This method will assist to furnish pure-bred poultry in each section and will also furnish an example of the modern type of a poultry house. These demonstration houses were built at the following places: Eden Lake, Pictou county; River Denny's, Cape Breton; North Brookfield, Queens; Meteghan, Little Brook and Comeauville, Digby county, and Kempt, Queens county.

These demonstration houses were located where from our experience most benefit would result to the farmers. In each case the demonstration houses were visited by a good number of persons and the interest in the construction was very marked. The houses were taken as a model and others were built in near neighbourhoods at the same time. It is to be hoped that we shall be able to continue this work in future and have others built in sections where better housing of poultry is much needed. A model poultry house stimulates the neighbourhood in which it is constructed in a remarkable manner to give better attention to their poultry.”

*Women's Institutes:* During 1914, twenty-two institutes were organized, making a total of thirty-six, and these institutes are distributed through the various counties as follows: Pictou, three; Colchester, two; Cumberland, four; Hants, two; Kings, five; Annapolis, two; Yarmouth, two; Queens, three; Lunenburg, five; Antigonish, five; and Guysborough, three; leaving Halifax and Shelburne counties and Cape Breton Island still unorganized, not for lack of invitation or inclination, but for lack of time. It has been thought wiser in putting this movement on a working basis in Nova Scotia to have a few institutes organized in each county rather than have two or three counties thoroughly covered.

The second annual convention was held in January, 1915, during the second week of the annual short course. The first convention outranked the second one owing to the clashing of short course lectures and convention sessions. In future this will be avoided. The addresses at this convention sustained the high standard set at the first convention and were delivered by Honourable G. H. Murray, Premier of Nova Scotia; Mrs. John Stanfield, Truro; Mrs. Laura Rose Stephen, Huntingdon, Que.; Mrs. F. Sexton, Halifax; Principal Cumming. Mr. L. A. DeWolfe and Rev. W. P. Grant,



6 GEORGE V, A. 1916

Truro. There were fifty-one delegates present and seven visiting members. The reports from the institutes were highly gratifying, particularly in regard to the amount of work accomplished for the Red Cross, Belgian Relief and Patriotic Fund. Besides their splendid response to these appeals, the institutes have not neglected the calls for aid in their own community. The membership runs between the minimum of fourteen and the maximum of fifty and the majority of institutes run closer to the maximum. The membership is composed of women of the best fibre in the province, women whose ideals are high and who stand staunchly for them, women whose desire is to better their homes and community and respond to the call "for home and country" at any moment.

At the first convention, a resolution was passed requesting the Government of Nova Scotia to consider the advisability of building, on the grounds of the Agricultural College, a domestic science school and residence for girls.

In response to this appeal there is to be devoted to the interests of women's work in the province the second floor of the new building being constructed on the college grounds. This will give the needed opportunity of developing the short courses and of providing adequate accommodation for future conventions.

The Women's Institutes have availed themselves of the travelling library of McGill University of Montreal. McGill University paid the transportation charges. The fee for the use of 25 to 30 books for three months was only about three dollars. The twelve institutes that have had the use of these books have found them exceedingly helpful.

A demonstrator and a lecturer on domestic science were in the field in the summer of 1914, and their efforts met with so much success that this phase of the work will be greatly developed, adding, if possible, demonstrators in other lines of homemaking and housekeeping.

"That the future of the institutes in Nova Scotia is a bright one is now an assured fact," states the superintendent, "and as the membership grows in numbers and strength, its influence for good will be from one end of Nova Scotia to the other, or as could easily be said in our beautiful sea-girt province, 'From the centre all round to the sea.'"

*Short Courses:* The short course at the Nova Scotia Agricultural College, held from January 5 to 15, 1915, was successful in every respect. The enrolled attendance in the men's course was 235, and in the women's course, 51, total 286. This is the third largest attendance in the history of the institution and the largest attendance ever recorded from the province of Nova Scotia. At the previous short courses there were always in attendance a large number of students, varying from 100 to 200 from the provinces of New Brunswick and Prince Edward Island, but as these provinces are now holding their own short courses, only a very few attended the Truro course.

The outstanding feature of the course was the opportunity given to those who attended to take up almost any line of study. Optional instruction was given in as many as four or five subjects at one time. In this way the large classes were in many cases reduced to smaller classes and much more effective work done than could be done by giving instruction continuously to classes too large for the attention of the teacher.

In addition to the usual features of stock-judging, seed-judging, and lectures in soil cultivation, some of the extra features included were a special course in manures and fertilizers, and a course of instruction in gasoline engines. The various gasoline engine firms sent engines to the college and a gasoline expert conducted the practical instruction classes.

Added features were instruction in special lines of dairying, veterinary science, poultry, horticulture, apiculture, entomology, and in fact almost every subject taken up in an agricultural college.

Even more successful, if possible, were the five short courses, each of three or four days' duration, held in March at Bridgewater, Yarmouth, Shubenacadie, Musquodoboit



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and Antigonish. In each of these places the local Agricultural Society or similar organization made contribution of the necessary land and also part of the money. These, supplemented by funds provided under the Agricultural Instruction Act supplied the means necessary for the erection of demonstration buildings in which the courses were held. These demonstration buildings contain one or more large class-rooms capable of seating 300 or more students, and are well suited for demonstrations in live-stock judging, seed-judging, as well as lectures.

The lecturers, for the most part, were the senior members of the college staff at Truro, assisted by B. L. Emslie, Fertilizer Expert of Toronto, J. A. Clark, Superintendent Experimental Farm, Charlottetown, and others. The usual procedure was to hold in the mornings lectures and conferences on soil cultivation, manures and fertilizers, etc. In the afternoon, demonstrations in the judging of live stock and seed were held. In the evening, lectures on the care and management of live stock, soil cultivation, etc., were given. One evening at each course was devoted to the very important subject of "Patriotism and Production"; and without exception this was the largest meeting at each course. Locally-owned stock was used for demonstration purposes. Moreover a feature at every course was an informal conference on local agricultural problems which always proved most valuable. At the evening lectures lantern slides were used to a considerable extent for purposes of presenting pictures of the best types of live stock, barn construction, soil cultivation and drainage. The general average attendance at each session of the five courses, morning, afternoon and evening, was 147.

So successful have these short courses proven that the department would like to extend them through every part of the province. The difficulty, however, is to secure thoroughly efficient men, for without such men these courses would never attract the interest and arouse the enthusiasm they do. The college faculty was drawn on to about its limit. It would seem that in the future the agricultural staff must be increased in numbers, and no doubt this will be done as the country realizes the efficient work being accomplished through the short courses as well as through the many other lines of work now being carried on.

Note:—Courses of Domestic Science and Mechanic Science are provided in connection with the regular Normal College work, and as part of the Rural Science Training School in vacation time, July and August.

*A Turnip Growing Contest:* A portion of the grant received by the province of Nova Scotia in 1914, under the provisions of the Agricultural Instruction Act, was used to defray a portion of the expense in conducting a contest for farmers' boys in the growing of turnips. The contest was open to boys between the ages of fifteen and twenty years living in the counties of Colchester, Cumberland and Pictou, whose guardians' assessed valuation of property did not exceed \$3,000. The area of turnips grown was one acre. Four prizes of seventy-five, fifty, thirty and twenty dollars were given in each county. The winners were allowed the option of spending the money: (1) In pursuit of an agricultural education; (2) for purchasing improved live stock; (3) for under-drainage or farm improvement; (4) in such other manner as may be agreed upon by the committee in charge of the contest. In addition to the regular prizes, the provincial Department of Agriculture contributed a prize of \$5 each to the boys whose crops were almost equal to the four prize winners. Thirty boys competed, five in Cumberland, ten in Pictou and fifteen in Colchester. The yields of the first prize winners were as follows:—

	Bushels.
Cumberland.. . . .	1,296
Colchester.. . . .	1,266
Pictou.. . . .	1,245

The average yield of field roots over Canada, according to the Canada Year Book, is about 360 bushels per acre. The contest is to be repeated in 1915.



SUMMARY FINANCIAL STATEMENT TO MARCH 31, 1915.

1913-14.. . . . .	\$54,288 45
1914-15.. . . . .	\$61,144 45

Sec- tion No.	Classification.	Grants 1913-14- 1914-15.	Expended to Mar. 31, 1915.	Balance Unexpended Mar. 31, 1915.
		\$ cts.	\$ cts.	\$ cts.
1	College Maintenance.....	32,000 00	27,940 72	4,059 28
2	College Buildings (\$1,195.41 transferred from Contingencies)..	16,695 41	13,686 09	3,009 32
3	Rural Science Schools.....	15,700 00	14,873 13	826 87
4	Field Demonstrations.....	12,900 00	12,895 61	4 39
5	Entomological and Horticultural Investigations.....	15,500 00	15,437 70	62 30
6	Dairy—Educational Work.....	6,000 00	5,980 15	19 85
7	Poultry—Educational Work.....	2,000 00	1,991 53	8 47
8	Bulletins.....	500 00	500 00	...
9	Fertilizers.....	300 00	300 00	...
10	Women's Institutes.....	5,000 00	3,787 96	1,212 04
11	Short Courses.....	7,400 00	6,890 22	509 78
12	Orchards.....	1,000 00	1,000 00	...
13	Contingencies.....	437 49	302 79	134 70
	Totals.....	115,432 90	105,585 90	9,847 00

DETAILS OF EXPENDITURE.

1.—Agricultural College Maintenance.

Grants, 1913-14, \$12,000; 1914-15, \$20,000.. . . \$	32,000 00	
Expended to March 31, 1915.. . . . .		\$ 27,940 72
Balance unexpended March 31, 1915.. . . . .		4,059 28
Total.. . . . .	\$ 32,000 00	\$ 32,000 00

As fully set forth in the Agricultural Instruction Act Report of 1914, this grant is supplementary to the provincial appropriations, and is expended on salaries and equipment with the object of increasing the efficiency of the institution.

The following is a statement of the expenditures for salaries and maintenance of the college and farm:—

For the year ending 30th September, 1912, the total was \$32,886.65; all being provincial funds. For the year ending 30th September, 1913, the total was \$43,924.66, of which \$34,000 was provincial funds and \$9,924.66 was provided by the Federal grant: For the year ending 30th September, 1914, the total was \$54,016.08, of which \$36,000 was provincial funds and \$18,016.08 was provided by the Federal grant.

It will thus be seen that in two years this expenditure increased by over \$21,000, and this was made possible by the operation of the Agricultural Instruction Act.

2.—College Buildings.

Grants, 1913-14, \$10,000; 1914-15, \$5,500.. . . \$	15,500 00	
Transferred from contingencies.. . . . .	1,195 41	
Expended to March 31, 1915.. . . . .		\$ 13,686 09
Balance unexpended March 31, 1915.. . . . .		3,009 32
Total.. . . . .	\$ 16,695 41	\$ 16,695 41



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2.—College Buildings.—Continued.

Frank Wilson, contract.. . . .	\$ 5,358 66	
R. O. McCurdy, contract.. . . .	4,254 00	
F. Dexter, plumbing.. . . .	757 47	
		\$ 10,370 13
Furniture and furnishings, Spencer Bros. and Turner.. . . .		289 50
Materials, labour, etc.. . . . .		207 79
Painting.. . . .		114 49
Cementing.. . . .		120 00
Angus McDonald, Inspector.. . . .		94 50
Horticultural building.. . . .		1,865 24
Interest account, Science building.. . . .		625 44
Total.. . . .		\$ 13,686 09

Particulars of the 1912-13-14 expenditure on new college buildings were given in the Agricultural Instruction Act Report last year.

Of the 1914-15 grant of \$5,500, \$625.44 was paid as interest on the money borrowed by the province to cover cost of constructing the new science building, and \$1,865.25 to cover balances on main and horticultural buildings. After interest charges on the science building have been met, the balance will be devoted to the sinking fund.

No. 3.—Agricultural Education in Rural Schools.

Grants, 1913-14, \$6,700; 1914-15, \$9,000.. . . .	\$ 15,700 00	
Expended to March 31, 1915.. . . .		\$ 14,873 13
Balance unexpended March 31, 1915.. . . .		826 87
Total.. . . .	\$ 15,700 00	\$ 15,700 00

L. A. DeWolfe, Director, Rural Education, salary, \$2,000, expenses, \$1,709.22.. . . .	\$ 3,709 22	
C. L. Moore, Dean of Rural Science school, salary, \$1,000, expenses, \$357.90.. . . .	1,357 90	
J. A. Benoit, salary.. . . .	100 00	
L. C. Harlow, salary.. . . .	100 00	
F. G. Matthews, salary.. . . .	100 00	
P. J. Shaw, salary.. . . .	200 00	
B. H. Landels, salary.. . . .	200 00	
W. H. Brittain, salary.. . . .	100 00	
E. W. Connolly, salary.. . . .	100 00	
H. W. Smith, salary.. . . .	200 00	
R. Matheson, salary.. . . .	100 00	
		\$ 6,267 12

School Gardens—

G. H. Higgins, services, \$30, expenses, \$20.75.. . . .	50 75	
School Exhibition prizes.. . . .	69 50	
Prize money.. . . .	332 27	
Teachers' grants.. . . .	3,445 00	
Students, travelling and expenses.. . . .	1,906 55	
Seeds, plants, fertilizers, etc.. . . . .	468 03	
Books, stationery, circulars, advertising.. . . .	886 76	
Microscopes, laboratory supplies and incidentals.. . . .	1,447 15	
Total.. . . .		\$ 14,873 13

This grant provides for the salaries and expenses of the Director of Rural Education and of the Dean of the Summer Science Schools; also salary of \$100 each to instructors, (five in 1914) at the Summer School for Teachers, not including the director and dean. Approximately, \$15 each is paid to teachers who take the course and make satisfactory progress. Teachers who secure diplomas receive additional grants varying from \$30 to \$90, the amount depending on their standing. Those who have taken part of the course may receive interim diplomas, and, if their work is satisfactory, may receive grants equal to about fifty per cent of the above. All of the money is not necessarily paid out of the Federal appropriation.



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Other charges are for microscopes, laboratory supplies, and for seeds, plants and fertilizers for school or home gardens conducted by public school pupils and for settings of eggs for school fair work, printing and advertising.

*No. 4.—Field Demonstrations.*

Grants, 1913-14, \$3,900; 1914-15, \$9,000.. . . .	\$ 12,900 00	
Expended to March 31, 1915.. . . .		\$ 12,895 61
Balance unexpended March 31, 1915.. . . .		4 39
Total.. . . .	\$ 12,900 00	\$ 12,900 00
Services and Expenses—		
H. S. Cunningham.. . . .	\$ 2,228 78	
R. W. Donaldson.. . . .	589 10	
P. L. Morse.. . . .	305 95	
H. B. Langille.. . . .	900 18	
W. M. Blair.. . . .	431 95	
R. H. Brown.. . . .	308 83	
L. D. Robinson.. . . .	200 74	
J. G. Archibald.. . . .	11 40	
L. Forsyth.. . . .	183 46	
G. C. Atkinson.. . . .	218 23	
C. S. Harland.. . . .	125 00	
F. H. Johnson.. . . .	21 77	
H. H. Blois.. . . .	100 00	
Jas. McIntosh.. . . .	29 25	
Hugh McPherson.. . . .	278 99	
G. L. Lewis.. . . .	76 60	
S. A. Cook.. . . .	140 49	
T. Hodgson.. . . .	68 50	
W. H. Woolworth.. . . .	211 45	
W. B. Oulton.. . . .	78 50	
C. H. Black.. . . .	183 20	
H. R. Brown.. . . .	126 35	
A. C. Tattrie.. . . .	215 25	
P. L. Langford.. . . .	62 70	
F. L. Fuller.. . . .	103 59	
S. J. Moore.. . . .	16 00	
P. A. Boving.. . . .	311 85	
E. S. Leonard.. . . .	175 28	
Guy Denton.. . . .	173 27	
J. B. Joyce, wages and expenses.. . . .	767 92	
Sundry persons, expenses.. . . .	916 24	
		\$ 9,560 82
Seeds, plants, fertilizers.. . . .		994 81
Incidentals, freight, repairs.. . . .		411 53
Equipment and Supplies—		
Tile machine and engine.. . . .	\$ 609 60	
Thermometers.. . . .	230 26	
Orchard heaters.. . . .	140 50	
Motor cycle.. . . .	303 40	
Models.. . . .	57 00	
Supplies.. . . .	252 64	
		1,593 40
Tile making and laying.. . . .		275 05
Field crop prizes.. . . .		60 00
Total.. . . .		\$ 12,895 61

The work in this section consisted of:—

(a) The demonstration in field crops in plots of one acre, chiefly turnips, which in Nova Scotia form the basis of a satisfactory rotation with clover and cereals. Two men were employed throughout the growing season with the necessary assistants.

(b) Orchard demonstrations.

(c) Demonstrations with fertilizers and ground limestone.

(d) Demonstrations in the making and laying of drainage tile.



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The charges against the appropriation include services and expenses of men employed, cost of tile machine and engine and its operation; thermometers and orchard heaters, motor-cycle supplies and field crop prizes.

5.—Entomological and Horticultural Investigations.

Grants, 1913-14, \$8,500; 1914-15, \$7,000.. . . .	\$ 15,500 00	
Expended to March 31, 1915.. . . .		\$ 15,437 70
Balance unexpended March 31, 1915.. . . .		62 30
Total.. . . .	\$ 15,500 00	\$ 15,500 00
Inspectors, services and expenses.. . . .	\$ 6,952 77	
R. Matheson, Professor of Zoology and Provincial Entomologist (1913-14), salary, \$900, expenses, \$306.87.	1,206 87	
W. H. Brittain, Professor of Zoology and Provincial Entomologist (1915), salary and expenses.. . . .	170 33	
V. T. Tarris, services.. . . .	275 00	
C. B. Gooderham, services.. . . .	25 00	
R. Bishop, services.. . . .	14 40	
C. A. Good, Investigator, services and expenses.. . . .	400 25	
A. Kelsall, services and expenses.. . . .	60 13	
C. F. Collingwood, services and expenses.. . . .	46 85	
V. Durling, services and expenses.. . . .	14 97	
H. R. Brown, services and expenses.. . . .	100 00	
W. H. Woodworth, services and expenses.. . . .	78 00	
L. D. Robinson, services and expenses.. . . .	19 20	
P. J. Shaw, expenses.. . . .	47 77	
		\$ 9,411 54
Greenhouse (construction).. . . .		2,308 79
Headhouse (construction).. . . .		2,454 29
Building material and labour.. . . .		387 19
Entomological building.. . . .		98 48
Architect's fees.. . . .		114 00
Equipment, supplies and incidentals.. . . .		663 41
Total.. . . .		\$ 15,437 70

The charges against this appropriation include half the salary and travelling expenses of the Provincial Entomologist and Professor of Zoology, the salary and expenses of his assistant, of the members of the field staff, and of the inspectors *re* San José Scale and Brown-tail Moth; motor-cycle, spraying equipment, supplies, etc.

The charges in connection with the entomological building and greenhouse were dealt with in the report of 1913-14.

6. Dairy Educational Work.

Grants, 1913-14, \$3,000; 1914-15, \$3,000.. . . .	\$ 6,000 00	
Expended to March 31, 1915.. . . .		\$ 5,980 15
Balance unexpended March 31.. . . .		19 85
Total.. . . .	\$ 6,000 00	\$ 6,000 00
W. A. McKay, Superintendent, half salary and expenses.. . . .	\$ 3,847 72	
Geo. A. Clark, salary and expenses.. . . .	912 17	
J. R. Sutherland, salary and expenses.. . . .	124 20	
C. F. Alward, salary and expenses.. . . .	611 22	
H. Falconer.. . . .	47 60	
F. L. Fuller.. . . .	25 00	
C. H. Black.. . . .	7 50	
L. C. Daigle.. . . .	26 25	
M. D. McCharles.. . . .	89 00	
Expenses.. . . .	19 90	
		\$ 5,710 56
Equipment.. . . .		115 35
Delegates, annual convention expenses.. . . .		63 80
Fees.. . . .		40 00
Incidentals.. . . .		50 44
Totals.. . . .		\$ 5,980 15



The charges made to this vote were explained in the report of 1913-14. The work was continued in 1914-15. It comprised inspection and instruction in cheese factories and creameries, creamery organization, educational meetings, etc.

7. Poultry Work.

Grants, 1913-14, \$500; 1914-15, \$1,500.. . . .	\$	2,000 00	
Expended to March 31, 1915.. . . .			\$ 1,991 53
Balance unexpended March 31.. . . .			8 47
Total.. . . .	\$	2,000 00	\$ 2,000 00
J. P. Landry, Poultry Superintendent, expenses.. . . .	\$		888 94
Gathering eggs.. . . .			188 47
Material, poultry house.. . . .			359 23
Egg cases and coops.. . . .			366 35
Delegates' expenses.. . . .			30 20
W. H. Henry, services and expenses.. . . .			10 95
Incidentals.. . . .			147 39
Total.. . . .	\$		1,991 53

To this division are charged the expenses of the poultry superintendent (salary charged to college), who is engaged in forming egg-circles, constructing model buildings, and demonstrating at exhibitions.

8. Bulletins.

Grant, 1913-14.. . . .	\$	500 00	
Expended to March 31, 1915.. . . .			\$ 500 00
Total.. . . .	\$	500 00	\$ 500 00
Printing and publishing Bulletins—			
L. C. Davidson & Co., catalogues and envelopes.. . . .	\$		15 30
E. O. Cockayre, plates in colour.. . . .			250 00
Weeks Printing Co., bulletins.. . . .			152 00
The Advertiser, reports.. . . .			76 37
Miscellaneous.. . . .			6 33
Total.. . . .	\$		500 00

9. Fertilizer Demonstrations.

Grant, 1913-14.. . . .	\$	300 00	
Expended to March 31, 1915.. . . .			\$ 300 00
Total.. . . .	\$	300 00	\$ 300 00
Materials and Freight—			
Sydney Cement Co., fertilizer.. . . .	\$		144 45
Eastern Lime Co., pulverized limestone.. . . .			120 00
I. C. Railway, freight.. . . .			35 55
Total.. . . .	\$		300 00

10. Women's Institutes.

Grants, 1913-14, \$2,000; 1914-15, \$3,000.. . . .	\$	5,000 00	
Expended to March 31, 1915 .. . . .			\$ 3,787 96
Balance unexpended March 31, 1915.. . . .			1,212 04
Total.. . . .	\$	5,000 00	\$ 5,000 00



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10.—Women's Institutes.—Continued.

Jennie A. Fraser, Superintendent, salary and expenses.. . . . .	\$ 1,802 41	
Mrs. L. R. Steven, salary and expenses.. . . . .	324 35	
Grace E. Dutcher, " " " " " " " " " " " "	151 37	
M. J. Cox, " " " " " " " " " " " "	139 36	
Annie Redmond, " " " " " " " " " " " "	38 15	
Mrs. K. E. Hopkins, " " " " " " " " " " " "	7 20	
Mrs. A. E. Dunbrack, " " " " " " " " " " " "	117 55	
I. M. Baltzer, " " " " " " " " " " " "	25 95	
Miss S. Campbell, " " " " " " " " " " " "	183 10	
		\$ 2,789 44
Delegates, expenses convention.. . . . .		104 44
Library fees, McGill.. . . . .		42 30
Handbooks, account books, printing, advertising, etc. . . . .		231 17
Equipment, supplies, livery and incidentals.. . . . .		320 61
Total.. . . . .		\$ 3,787 96

The salary and expenses of the superintendent are charged to this vote; cost of annual convention and the services and expenses of speakers at meetings; fees to McGill Travelling Library; cost of printing, advertising, equipment and supplies.

11. Short Courses.

Grants, 1913-14, \$4,400; 1914-15, \$3,000 .. . . .	\$7,400 00	
Expended to March 31, 1915.. . . . .		\$6,890 22
Balance unexpended March 31, 1915.. . . . .		509 78
Total.. . . . .	\$7,400 00	\$7,400 00
Grant to Agricultural Societies, etc., for buildings for short courses—		
Yarmouth.. . . . .	\$ 750 00	
Shubenacadie.. . . . .	653 84	
Bridgewater.. . . . .	1,225 25	
Musquodoboit.. . . . .	600 00	
Antigonish.. . . . .	1,000 00	
		\$4,229 09
Delegates, expenses.. . . . .		560 00
Equipment, materials and supplies.. . . . .		236 78
Advertising, printing, stationery.. . . . .		247 41
Heating, lighting etc.. . . . .		158 69
Incidentals.. . . . .		47 49
Prof. M. Cumming, expenses.. . . . .	\$ 49 40	
Prof. J. M. Trueman, expenses.. . . . .	92 21	
Prof. W. H. Brittain, expenses.. . . . .	14 00	
Jno. Standish, services and expenses.. . . . .	248 30	
B. H. Landels, services and expenses.. . . . .	274 98	
L. D. Robinson, services.. . . . .	24 35	
W. S. Blair, expenses.. . . . .	43 54	
W. D. Bowers, expenses.. . . . .	12 38	
H. S. Cunningham, expenses.. . . . .	286 65	
P. J. Shaw, expenses.. . . . .	31 57	
J. A. Sinclair, services and expenses.. . . . .	250 05	
D. H. McPherson.. . . . .	83 33	
		1,410 76
Total.. . . . .		\$6,890 22

The expenditure made under this grant for buildings in which to hold winter short courses was dealt with in the report for 1913-14. Later, a building was provided at Antigonish, making five in all. The local agricultural societies provided part of the cost, which was about \$1,500 for each building. The building at Antigonish provides quarters for the district representative. Heating, lighting, equipment, materials and supplies, advertising, services and expenses of instructors, expenses of members of the college staff, expenses of delegates, etc., are here charged.



12. Orchards.

Grant, 1913-14.. . . . .	\$1,000 00	
Expended to March 31, 1915.. . . . .	.....	\$1,000 00
Total.. . . . .	\$1,000 00	\$1,000 00
P. L. Morse, salary and expenses.. . . . .	\$215 20	
L. D. Robinson, salary and expenses.. . . . .	269 75	
Jas. Allen, expenses.. . . . .	5 40	
P. J. Shaw, expenses.. . . . .	58 74	
		\$ 549 09
Equipment.. . . . .		180 74
Materials.. . . . .		185 35
Printing reports.. . . . .		84 82
Total.. . . . .		\$1,000 00

13. Contingencies.

Grants: 1913-14, \$1,488.45; 1914-15, \$144.45 .. . .	\$1,632 90	
Less transferred to College Buildings Account.. . .	1,195 41	
		\$437 49
Expended to March 31, 1915.. . . . .		\$302 79
Balance unexpended March 31, 1915... ..		134 70
Total.. . . . .		\$437 49
Limestone.. . . . .		\$ 67 60
Freight.. . . . .		26 47
Scrapers.. . . . .		60 00
Printing reports .. . . . .		138 97
Royal Bank.. . . . .		9 75
Total.. . . . .		\$302 79

STATEMENT AGRICULTURAL AID GRANT, 1912.

Sec- tion No.	Classification.	Grant.	Expended.
		\$ cts.	\$ cts.
1	Agricultural Societies.....	3,000 00	3,000 00
2	Agricultural College Buildings.....	31,288 45	31,288 45
	Total.....	34,288 45	34,288 45

1. Agricultural Societies (Details):—

Annapolis county.. . . . .	\$ 361 06
Antigonish county.. . . . .	311 22
Cape Breton county.. . . . .	412 11
Colchester county.. . . . .	185 11
Cumberland county.. . . . .	96 40
Digby county.. . . . .	96 51
Guysborough county.. . . . .	164 08
Halifax county.. . . . .	5 25
Hants county.. . . . .	231 31
Inverness county.. . . . .	59 84
Kings county.. . . . .	236 00
Lunenburg county.. . . . .	303 66



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1.—*Agriculture Societies (Details).*—Continued.

Pictou county .. . . .	\$ 218 87
Queens county.. . . .	47 44
Richmond county.. . . .	29 37
Shelburne county.. . . .	27 65
Victoria county.. . . .	71 62
Yarmouth county.. . . .	82 00
Postmaster, postage.. . . .	8 00
Weeks Printing Co.. . . .	52 50
	<hr/>
	\$ 3,000 00

### 2. *Agricultural College Buildings (Details):—*

Frank Wilson, contract and extras.. . . . .	\$	20,790	38
R. O. McCurdy, on account contract.. . . . .		5,000	00
A. R. Cobb, architect's fees, etc.. . . . .		1,240	04
Dexter and Co., plumbing.. . . . .		121	10
Furniture and Furnishings—			
Spencer Bros. & Turner.. . . . .	\$	1,408	38
Vernon & Co.. . . . .		615	60
Crowe Bros.. . . . .		146	40
Incidentals.. . . . .		38	60
		<hr/>	
	\$	2,209	48
Angus McDonald, inspector.. . . . .		626	50
Materials, labour, etc.. . . . .		1,300	95
		<hr/>	
Total.. . . . .	\$	31,288	45

COMPARATIVE STATEMENT OF EXPENDITURE OF PROVINCIAL FUNDS FOR AGRICULTURAL PURPOSES FOR THE YEARS 1912, 1913, 1914, AND ESTIMATED EXPENDITURE FOR 1915.

Service.	1912 to Sept. 30.	1913 to Sept. 30.	1914 to Sept. 30.	1915 to Sept. 30. Estimated.
	\$ cts.	\$ cts.	\$ cts.	\$ cts.
General Agriculture—				
Dept. Salaries and Expenses.....	6,718 79	7,672 08	5,449 77	
Assistance in Dairying.....	835 62	926 16	1,257 34	
Entomological Inspection.....	4,544 85	3,582 27	2,744 15	
Drainage.....	2,395 92	1,534 01	903 19	
Exhibitions.....	11,588 05	12,457 84	18,222 13	
Field Crop Competitions.....	298 50	870 18	939 18	34,750 00
Live Stock Improvement.....	1,520 55	898 57		
Meetings.....	445 55	621 84	69 77	
Model Orchards.....	910 66	983 31	832 15	
Printing and Advertising.....	204 26	134 35	306 81	
Miscellaneous.....	3,322 46	397 06	228 20	
Agricultural College.....	19,773 54	19,607 25	22,000 00	33,000 00
College Farm.....	13,113 11	14,317 41	14,000 00	
Agricultural Societies.....	10,314 85	13,282 32	15,787 05	15,000 00
Fruit Growers and County Associations.....		1,032 75	1,150 00	
Stallion Enrolment.....		84 75	518 91	
Assistance to Poultry.....		100 35	565 13	
Totals.....	75,986 71	78,502 50	84,973 78	82,750 00
Revenue.....	6,463 32	9,498 41	6,677 26	8,500 00
	69,523 39	69,004 09	78,296 52	74,250 00



## NEW BRUNSWICK.

### WORK OF THE PROVINCIAL DEPARTMENT OF AGRICULTURE.

The work carried on under the Federal grant is supplemental to that financed by the provincial appropriations. The leading features of this latter are:—

(1) Stimulation of the live stock industry: The necessity for more and better live stock being apparently one of the greatest needs. The growth of alfalfa and early varieties of fodder corn are being encouraged, and pure-bred live stock is being introduced by the Provincial Department.

(2) Dairying and Poultry: Work in connection with the dairy industry is regarded as one of the most important activities of the department's work. In addition to the instruction given in the dairy schools and in the agricultural schools, testing and recording centres are being established.

(3) Fertilizers: In the matter of commercial fertilizers New Brunswick consumes more than all the rest of Canada. The farmers are being instructed to mix their own raw materials. A purchasing agency, known as the Agricultural Societies United was organized in 1914 to deal in fertilizers, and handled large orders at a great saving to the farmers. A limestone crusher is operated and is sent wherever required and the work is done at actual cost.

(4) Standing Field Crop Competitions: The object of these competitions is to improve the quality of the seeds. Seed competitions are held and also a seed fair at Fredericton. Two-thirds of the prize money is paid by the Dominion Seed Branch, and the balance out of provincial funds.

(5) Horticulture: Demonstration and illustration orchards are conducted by the province. In the former, the department takes over the supervision of old orchards, and shows how they can be improved by proper treatment and care. The illustration orchards were planted by the department, and are to be looked after for ten years.

(6) The Entomological Branch: The Provincial Entomologist visits the schools and gives instruction in regard to insect life, teaching the children to discriminate between insects and birds that are beneficial and those that are destructive to crops. The extermination of the Brown-tail Moth, and other pests is dealt with.

### THE AGRICULTURAL INSTRUCTION ACT.

The subsidy provided under the Agricultural Instruction Act in 1914-15 and its allotment:—

Building, equipment and maintenance of agricultural schools....	\$12,500 00
Equipment and maintenance of dairy schools.....	3,451 69
Short courses in agricultural work.....	1,500 00
Provincial officers to inspect and instruct in agricultural work..	2,000 00
Director of elementary agricultural education.....	2,500 00
Transportation of agricultural students.....	1,500 00
Courses in training for teachers.....	1,748 31
Travelling instructors.....	13,000 00
Women's Institutes .....	3,000 00
Drainage and soil cultivation .....	2,000 00
Demonstration trains .....	1,000 00
School gardens .....	3,500 00
Bulletins .....	500 00
Contingencies for the carrying on of any of the above services..	1,207 20
Total.. . . . .	<u>\$49,407 20</u>



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OUTLINE OF WORK PERFORMED.

*Agricultural Schools:* The spring of 1915 witnessed the completion at Sussex of the second of New Brunswick's Agricultural Schools. The first of these schools, was completed at Woodstock one year previously. No effort is being spared to equip them with everything necessary for effective agricultural instruction. Though not so large as the Woodstock school, the accommodation will be fully as great, since the whole of the building will be used for agricultural work, and considerable additional accommodation is available in the dairy school, which stands alongside. A six-weeks' course in agriculture was held in each school in the spring of 1915.

The school at Sussex was formally opened and dedicated on July 15, 1915. The Hon. J. A. Murray, Minister of Agriculture, presided, and had on the platform with him, His Honour Lieutenant Governor Wood, Premier Hon. Geo. J. Clark, Provincial Secretary-Treasurer, Hon. Dr. D. V. Landry, Attorney General, Hon. J. B. M. Baxter, the Mayor of Sussex and other officials, educational and agricultural. One hundred and fifty school teachers and school inspectors were in the audience, they having come primarily to spend four weeks at the Summer School of Science, which opened in the new building on July 14.

The Provincial Minister of Agriculture gave credit to the Dominion Government for the assistance given towards the cost of the schools.

The new building, about 44 by 79 feet in size, presents a very creditable and attractive appearance, and contains a number of very fine rooms suitable for the various branches of work. The first floor has an office, a cloak room, and an assembly room 40 by 50 feet, which will also be used for seed-judging work. The second floor has two large rooms, one of which will be used as a general laboratory and the other as a lecture room; each has a preparation room attached. In the basement a live stock judging room, 40 by 43 feet, will be equipped with seats built in tiers on two sides of the room.

*Dairy Schools:* Two dairy courses are provided, one at the dairy school in Sussex and the other at St. Hilare, Madawaska County. The latter, which was referred to in the report of 1913-14, is more particularly for the French-speaking section of the province.

*Elementary Agricultural Instruction:* The expenditure for this purpose is under the control of the Minister of Agriculture. The officer administering the work, while appointed by the Minister of Agriculture, is given authority by the Schools Act in the public schools carried on by the Board of Education.

The Board of Education has prescribed a course of instruction in nature study and agriculture for use in all the schools, and outdoor education is now being employed as a feature of general school work. In order to qualify the teachers, a rural science school was opened at Woodstock in the summer of 1914. Instruction in school gardening, nature study, and the fundamental principles of the natural sciences is given, together with the best methods of awakening interest among the people and of correlating such work with the other subjects of the school course. Seventy-five teachers and inspectors attended. Interest and enthusiasm were marked, and the departments have reason to be well satisfied with the work accomplished in the first session of the school. It is the intention to provide two courses in 1915, one at Woodstock, and another at Sussex. A sufficient number of teachers applied to fill both the schools.

*School Gardens:* Forty-eight school gardens were in operation in the last term of 1914, under the supervision of specially trained teachers. In addition, 89 home plots were carried on. Pupils undertaking the latter were required to keep records of their work, and the plots were inspected by the teachers. Of the 47,760 pupils in the country schools, 2,502 received special instruction in this department of work. Seeds, bulbs, and shrubs were given to the children, and it is likely that in the future settings of eggs may be added.



*Short Courses:* The programme of courses as carried out was as follows:

Newcastle, N.B.: Four days' course (general), December 1-4, 1914.

Woodstock Agricultural School—Six weeks' course (general), January 5-February 12, 1915; and a four days' course (general), February 9-12, 1915.

Sussex Agricultural School—Two weeks' course in Dairying, Horticulture, Poultry and Bee-keeping, March 2-3, 1915.

Two weeks' course in Live Stock, Field Crops and Soil Management, March 15-27, 1915.

Three days' course (general), March 25-27, 1915.

The work at Sussex, it will be noted, was divided into two consecutive courses of two weeks each, and students had the option of taking one or both courses. It was hoped in this way to encourage a larger total attendance than could be secured by a single general course four weeks in length. However, there was little apparent effect in this direction, and the results on the whole are in favour of a longer general course: the students do decidedly better work and acquire to a greater extent the "student spirit"—the spirit of investigation and inquiry which leads them to make better use of their opportunities.

A number of new features were introduced into the courses this year, some with a view to furthering various lines of work that have been undertaken recently by the Department of Agriculture for the benefit of the farming community. In connection with the drainage campaign being carried on, one of the most serious problems has been to secure a sufficient supply of tiles at reasonable cost. At each course this winter a demonstration was given in the home making of cement tiles. Instruction was given in the proper method of mixing fertilizers. As a part of the fertilizer work there was included a discussion of the function of lime in the soil. Samples of pulverized limestone crushed by the department's machine were submitted and the value and uses of this material were explained fully. Demonstrations in the killing and plucking of poultry, in the proper use of the fanning-mill for grading seed grain, and in the treatment of grain for smut were, along with those mentioned above, included among the newer features of the three and four days' courses.

During the longer courses two new and interesting lines of work were taken up. These were an experiment conducted by the students in the crate-fattening of poultry, and a study of grain samples supplied by the students from seed intended for use on their home farms in 1915.

For the study of grain samples a working model was used of a fanning-mill commonly in use throughout the country. Its dimensions are 22 inches long, 18 inches wide, and 22 inches high. This does the work almost as well as a full sized mill, and is much more convenient for class-room purposes, especially when working with small quantities. The instructor in field crops had the students handpick a pound of the grain as it came from the farm, to find the percentage of large plump seed. Other portions were put through the fanning mill one, two, and three times, and the product subjected to the test of handpicking. This work brought out strikingly the quality of the seed grain in common use, as well as the value of the fanning mill for both grading the grain and removing the weeds. The instructor in biology had the students make exact determinations of the percentage of weed seeds, and followed this with a study in identification and methods of control. The samples were also examined carefully for smut, ergot, and other diseases.

The method of presentation in the three and four days' courses were confined very largely to making practical demonstrations, with explanatory lectures. The remaining lectures were illustrated in almost every case by lantern slides. It has been found advisable that talk, unaccompanied by demonstration or the use of illustration material, should be reduced to a minimum.

In the longer courses half the time was devoted to laboratory work, and the periods were made as practical as possible. Practice for every student in Babcock milk-testing



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and in butter-making was provided as part of the course in dairying. For pruning and grafting of apple-trees, visits were paid to nearby orchards, and good-sized trees were also brought into the class-room. For stock-judging work, good representatives of the leading breeds were brought into the class-room; also, the members of the class visited the stables of some of the leading breeders of the neighbourhood. Advantage was taken of these visits to make a practical study of building construction and ventilation systems.

A bulletin reading course prescribed for the students at the longer courses is a feature worthy of note. Copies of one or two of the best bulletins obtainable, bearing upon each subject of study, were provided in sufficient number so that a complete set could be loaned to each student at the beginning of the course.

*Household Science:* So successful was the short course in Household Science held at Sussex during the winter of 1913-14, for the benefit of the women of rural districts, that the Department of Agriculture felt encouraged to hold three courses during the winter of 1914-15, taking up the following subjects:

Cooking, theory and practice; composition of foods and food values; a short course in waitress' work; hygiene and sanitation; home nursing; sewing; house-planning and interior decoration.

Two of these courses, held in the agricultural schools at Woodstock and Sussex, January 5 to 16, and February 16 to 27, respectively, were held in conjunction with the agricultural courses, and were so arranged that students could take advantage of lectures on dairying, poultry-raising and horticulture. The other course was held in the high school at Chatham, January 26 to February 6. The courses were so simplified that, combining practice with theory, the knowledge gained thereby could be applied to daily living.

The following report of the work in Domestic Science has been furnished and is given somewhat in detail, as it furnishes a fairly complete account of the nature of the instruction provided:

"The cooking, house-planning, interior decoration, and sewing classes, were in charge of Miss Imogene Jonah, of Sussex, a household science graduate. Each day students were given an opportunity to prepare and serve a meal where the family income, cost of food, sanitary cooking and nutritive value were considered. Attention was paid to the selection of supplies from an economic and useful standpoint, thereby developing an interest in marketing and accounts. Upon different occasions, enthusiastic students visited the butcher shops of the town to become familiar with prices and cuts of meat. A very practical demonstration was given by one of the butchers, when he cut several quarters of beef, veal, and pork, allowing the students to handle and become familiar with the various cuts.

The lectures on planning, decoration and care of the house, proved interesting and instructive. Attention was given to the most desirable location for a house, when treatment of soil and proper drainage need to be considered before building, and in order to have a comfortable home, heat, light, water, ventilation and sunshine must be thought of. From day to day lectures on treatment of floors, walls and ceiling decorations, bed-room and living-room conveniences, the proper equipment of the kitchen, etc., led to discussion on the transformation of old houses, the modernization of the farmhouse, and intelligent furnishing when beauty of simplicity should be considered.

The sewing class occupied two hours each day and included lessons in cutting, fitting and embroidery. Many pupils at the beginning of the course knew absolutely nothing about sewing, but before the course had finished were able to cut out and make plain shirt-waists, skirts, night-dresses, kimono's, etc. At the close of each course, articles completed were exhibited.

The hygiene, sanitation and home-nursing classes were conducted by Miss Hattie Brown, of Fredericton, a graduate nurse. The lectures on hygiene included, heredi-



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tary diseases, baths, care of the hair, teeth, nails, and feet, habits, occupation, exercise and rest, clothing, location of the home and out-buildings, water supply, sinks, sewers and cesspools, care of garbage and disposal of same, and general cleanliness in the home.

Lectures, followed by practical demonstrations, made up the home-nursing class and included: Location and furnishing of the sick-room, ventilation and temperature, beds and bed-making, changing of bed linen with the patient in bed, changing or turning mattress with the patient in bed, getting patient up out of bed for the first time, bodily comfort of patient, different kinds of baths, different methods of taking patient's temperature, counting pulse and respiration, care of typhoid patient, disinfection of bed linen and excreta; the making of poultices, mustard plaster, fomentations and their application, bandages and bandaging, the application of splints, fracture boxes, artificial respiration, the keeping of charts and notes for the doctor.

A lecture was given on contagious diseases and the care of the patient during sickness, convalescence or death.

The emergency nursing treated of fractures, dislocations, sprains, foreign bodies in the eye, ear, nose and throat, sunstroke, fainting, hysteria, asphyxiation, intoxication, convulsions, shock, common poisons, their antidotes and treatment, burns and scalds produced by acids and alkalies, drowning, frost bites, fire.

The short courses this winter, differed from last in that they were held for the benefit of women's institute members only, and the Department being anxious to give all students an opportunity for individual work, only 40 applications were considered for each separate course. Owing to this, several applicants were turned away, but these courses have become so popular it is very probable the number will be doubled next winter.

*Women's Institutes:* There are institutes in every county in the province with the exception of Madawaska and Gloucester, the number having increased from 28 at the close of 1912 to 62, with a membership of 2,000, in the spring of 1915.

The following is the number of active institutes by counties:—Albert, 3; Carleton, 7; Charlotte, 5; Kent, 3; St. John, 2; Sunbury, 3; Victoria, 4; Westmorland, 5; Northumberland, 5; Kings, 10; Queens, 4; Restigouche, 2; York, 7.

The organizers report a very large attendance at nearly all the public meetings, and much enthusiasm. A well-known school inspector spoke in decided terms of approval concerning the various improvements in the country schools brought about through the efforts of the institutes.

The members did their part to help in the great world-war, having raised \$5,000 in cash and supplied great quantities of material for Red Cross work and soldier's comforts.

Miss Hazel E. Winter is supervisor of Women's Institutes and Miss Imogene Jonah is instructor in Domestic Science.

*Travelling Instructors:* The work of the travelling instructors is one of the most important being carried on. The staff comprises the Dairy Superintendent, the Horticulturists, the Poultry Superintendent, Animal Husbandman, Bee-keeping Instructor, Fertilizer Instructor, the teachers in the Agricultural Schools, and men engaged from time to time for special subjects. The instructors not only attend meetings and give instruction by means of lectures, but they visit each farmer's place in turn and demonstrate methods in a practical way. The appreciation being met with is highly gratifying.

*Demonstration Trains.*—During the past two years all the territory in the province traversed by the Canadian Pacific and the Intercolonial railways has been covered, and the work will hereafter be discontinued. The good results that have come from carrying agricultural education to the farmers in this way are generally admitted.



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*Drainage and Soil Cultivation.*—This is the second year of operation for the ditching machine operated for the purpose of demonstrating the good results that come from proper drainage. The farmer on whose land the work is done pays the actual cost of operation, the other expenses being met out of the appropriation. Replies received from farmers in various parts of the province testify that the introduction of drainage is bringing about increased productiveness, and not only adding to the length of the season, but making it possible to work the soil more easily and cheaply and with better results.

The deficiency of lime in New Brunswick soils is serious enough to constitute an important problem. Since pulverized limestone has been found as effective as burnt lime, as well as a cheaper and more advantageous form to use, and limestone deposits are widely distributed over the province, the department purchased a first-class portable pulverizer and demonstrated the production of this material. The work was carried on in co-operation with agricultural societies or groups of farmers, who quarry the limestone and prepare it for the machine. Experiments are already under way to show the effect of applications of limestone to the soil, both alone and in conjunction with barnyard manure and commercial fertilizers. In this work, as in the drainage work, meetings are held in connection with the demonstrations dealing with the whole question of soil fertility.

SUMMARY FINANCIAL STATEMENT FEDERAL SUBSIDIES OF 1913-14 AND 1914-15 TO MARCH 31, 1915.

1913-14 .. .. .	\$44,509.93
1914-15 .. .. .	49,407.20

Section No.	Classification.	Grants 1913-14 1914-15.		Expended to Mar. 31. 1915.		Balance Unexpended Mar. 31, 1915.	
		\$	cts.	\$	cts.	\$	cts.
1	Agricultural Schools...	18,500	00	24,878	65		
2	Dairy Schools.....	5,451	69	5,869	20		
3	Short Courses.....	2,500	00	1,951	10	548	90
4	Provincial Officers, Instructors..	4,000	00	5,028	61		
5	Director Elementary Agricultural Education.....	4,000	00	3,287	51	712	49
6	Courses of Training for Teachers...	2,248	31	2,464	71		
7	Transportation Agric. Students.....	1,500	00	1,227	82	272	18
8	Bulletins.....	2,000	00	2,109	58		
9	Travelling Instructors.....	27,200	00	25,628	30	1,571	70
10	Women's Institutes.....	5,000	00	4,723	72	276	28
11	Instruction in Domestic Science.....	200	00	44	40	155	60
12	Training Teachers Domestic Science.....	200	00	22	20	177	80
13	Demonstration Trains.....	3,400	00	3,398	86	1	14
14	Drainage and Soil Cultivation...	6,500	00	6,991	79		
15	Bee-keeping.....	500	00	170	56	329	44
16	Teachers in Agricultural Schools.....	4,000	00	3,918	60	81	40
17	School Gardens.....	5,000	00	3,582	22	1,417	78
18	Contingencies.....	1,717	13	940	73	776	40
	Totals.....	93,917	13	96,238	56	6,321	11

Sections 1, 2, 4, 6, 8, 14 Over-expended balances.....\$8,642 54

The over-expenditures have been met out of the grant for 1915-16, and the balances on hand were carried forward and have been expended since March 31. These will be accounted for in the report for 1915-16.



DETAILS OF EXPENDITURE, APRIL 1, 1913, TO MARCH 31, 1915.

1.—Agricultural Schools.

Grants: 1913-14, \$6,000; 1914-15, \$12,500.. . . .	\$18,500 00	
Expended to March 31, 1915.. . . .		\$24,878 65
Balance overexpended March 31, 1915 .. . . .	6,378 65	
Total.. . . .	\$24,878 65	\$24,878 65
Buildings—		
Contracts, W. F. Lutz... . . . .	\$17,468 00	
G. E. Fairweather, architect... . . . .	500 00	
Incidentals.. . . .	639 11	
		\$18,607 11
Equipment, furniture and furnishings.. . . .		3,913 12
Maintenance—		
Miscellaneous.. . . .	\$671 80	
Fuel and light... . . . .	372 19	
Insurance.. . . .	680 00	
Janitor's services.. . . .	634 43	
		2,358 42
Total.. . . .		\$24,878 65

To this appropriation is charged the building cost of the new Agricultural School at Sussex, and the cost of furniture, furnishings, equipment and maintenance of the school at Woodstock built with the funds from the Fisher bequest.

The cost of the Sussex school was nearly \$28,500. The cost of equipment with extras will be nearly \$33,000. Of this amount \$18,607.11 has been charged, and the balance will be provided in succeeding years. This plan of spreading the cost of buildings over more than one year is followed at the Agricultural College, Truro, N.S., and at the two French schools of agriculture in Quebec, arrangements being made locally to finance the whole cost of construction. (See report 1913-14, pp. 47-48.)

2.—Dairy Schools.

Grants: 1913-14, \$2,000; 1914-15, \$3,451.69.. . . .	\$5,451 69	
Expended to March 31, 1915.. . . .		\$5,869 20
Balance overexpended March 31, 1915 .. . . .	417 51	
Total.. . . .	\$5,869 20	\$5,869 20
W. E. Lutz, labour and materials, Sussex school..		
Equipment and furnishings.. . . .	\$1,334 75	
	3,958 63	\$5,293 38
Maintenance.. . . .		575 82
Total.. . . .		\$5,869 20

The expenditure includes part cost of construction of the Dairy School at Sussex, and the cost of equipment, furnishings and maintenance of both the Sussex and St. Hilaire schools. The Dairy School at St. Hilaire, Madawaska County, was put into operation recently and is proving of great benefit to the people of the district. The organization of these two schools was dealt with in the report for 1913-14, pp. 49 and 50.

3.—Short Courses.

Grants, 1913-14, \$1,000, and 1914-15, \$1,500 .. . .	\$2,500 00	
Expended to March 31, 1915.. . . .		\$1,951 10
Balance unexpended March 31, 1915.. . . .		548 90
Total.. . . .	\$2,500 00	\$2,500 00



3.—Short Courses.—Continued.

Instructors, lecturers, judges, etc.—		
R. A. Phillmore, services and expenses.. . . .	\$ 62 95	
O. W. Wetmore, " " " " " " " " " " " "	23 20	
P. A. Boving, " " " " " " " " " " " "	129 45	
Andrew Elliott, " " " " " " " " " " " "	162 95	
B. Robertson, " " " " " " " " " " " "	27 20	
John Woods, " " " " " " " " " " " "	11 40	
H. Barton, " " " " " " " " " " " "	37 85	
Sundry persons, judging expenses.. . . .	357 10	
" " " " " " " " " " " " " " " " " "	95 30	
		\$ 897 40
Supplies, live stock and transportation of same.. . . .		366 95
Incidentals.. . . .		217 78
Advertising and printing .. . . .		423 67
Transportation of delegates .. . . .		45 30
Total.. . . .		\$1,951 10

The services and expenses of the instructors and lecturers at the Short Courses held at Newcastle, Woodstock and Sussex; the cost of getting together specimens of live stock and other illustrative objects, advertising, printing and supplies are here charged.

4.—Provincial Instructions and Inspectors.

Grants, 1913-14, \$2,000; 1914-15, \$2,000.. . . .	\$ 4,000 00	
Expended to March 31, 1915.. . . .		\$ 5,028 61
Balance overexpended March 31, 1915.. . . .	1,028 61	—
Total.. . . .	\$ 5,028 61	\$ 5,028 61

	Salaries.	Expenses.
J. E. DeGrace, Supt. Agricultural Societies.. . . .	\$ 770 84	\$ 486 02
Andrew Elliott, judging, services.. . . .	210 00	165 15
C. A. Voye, potato inspector.. . . .	67 16	150 70
L. F. Webster, potato diseases.. . . .	112 28	147 96
Wm. Kerr, potato diseases and judging.. . . .	514 00	437 19
Amos Downey, potato diseases.. . . .	98 00	62 80
Wm. Stevens, potato diseases.. . . .	54 00	59 20
R. Rideout, " " " " " " " " " " " "	58 00	57 90
H. F. Turney, " " " " " " " " " " " "	72 76	133 80
F. L. Fox, " " " " " " " " " " " "	68 04	130 25
J. Christian, " " " " " " " " " " " "	62 00	29 35
A. R. Sipprelle, potato disease and inspecting.. . . .	76 00	50 45
Ward Ginson, " " " " " " " " " " " "	74 00	52 25
G. H. Williams, " " " " " " " " " " " "	44 00	21 10
L. A. Slipp.. . . .	172 50	82 65
C. E. Sheridan.. . . .	156 66	193 60
Total.. . . .	\$ 2,610 24	\$ 2,260 37
		\$ 4,870 61
Incidentals.. . . .		158 00
Total.. . . .		\$ 5,028 61

These officers travelled about the province giving instruction to the farmers. A large share of their attention was given to the potato crop and their work was of great advantage to the community. The expenditure covers salaries and expenses during the two years.



5.—Director Elementary Agricultural Education.

Grants, 1913-14, \$1,500; 1914-15, \$2,500.. .. .	\$	4,000 00	
Expended to March 31, 1915.. .. .			\$ 3,287 51
Balance unexpended March 31, 1915.. .. .			712 49
Total.. .. .	\$	4,000 00	\$ 4,000 00
R. P. Steeves, Director salary.. .. .	\$	2,199 99	
“ “ expenses.. .. .		614 64	
Office expenses.. .. .		250 78	
Furniture.. .. .		151 20	
Printing.. .. .		70 90	
Total.. .. .	\$		3,287 51

The expenditure covers the salary and office expense of the Director, Mr. R. P. Steeves, B.A., since his appointment in August, 1913. The scope of the work carried on by the director was fully set forth in the report for 1913-14 pages 50-52, and is also dealt with in this report.

6.—Courses for Training Teachers.

Grants, 1913-14, \$500 and 1914-15, \$1,748.31.. .. .	\$	2,248 31	
Expended to March 31, 1915.. .. .			\$ 2,464 71
Balance overexpended March 31, 1915.. .. .		216 40	
Total.. .. .	\$	2,464 71	\$ 2,464 71
Instructors—			
H. H. Hagerman, services.. .. .	\$	225 00	
D. W. Hamilton, “ .. .. .		100 00	
H. B. Bigelow, “ .. .. .		100 00	
Horace G. Perry, “ .. .. .		125 00	
Jas. A. Starrat, “ .. .. .		125 00	
J. E. McLarty, “ .. .. .		125 00	
J. E. McLarty, expenses.. .. .		45 00	
Jean Peacock, services.. .. .		100 00	
			\$ 945 00
Supplies, etc.. .. .			239 21
Teachers' expenses.. .. .			415 50
Allowances, sundry persons for attendance at summer school, Woodstock.. .. .			245 00
Bonuses for attendance at summer school, 31 at \$20.. .. .			620 00
Total.. .. .	\$		2,464 71

The appropriation covers the services of instructors at the Rural Science School for teachers at Woodstock, teachers' expense allowance, and bonuses. Every teacher who passed the examination in Agriculture with School Gardening, previous to entering the course, and who made satisfactory progress during the course, received in addition to travelling expenses, \$20 for living expenses while at Woodstock. The main items of expenditure were as follows: Instructors, \$945; teachers' allowances and expenses, \$660.50; bonuses, \$620.

7.—Transportation of Students.

Grant, 1914-15.. .. .	\$	1,500 00	
Expended to March 31, 1915.. .. .			\$ 1,227 82
Balance unexpended March 31, 1915.. .. .			272 18
Total.. .. .	\$	1,500 00	\$ 1,500 00
Railway fares of students.. .. .	\$		1,227 82



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Hitherto it has been the practice of the province to pay the transportation expenses of students to the short courses at the Agricultural College, Truro, N.S., but now that the province has its own agricultural schools, at which the short courses are to be held, no more transportation expense will be incurred for short courses. The department will continue paying transportation for students who are taking the full course at any agricultural college in Canada.

8.—*Bulletins.*

Grants, 1913-14, \$1,500; 1914-15, \$500.. .. .	\$	2,000 00	
Expended to March 31, 1915.. .. .		.....	\$ 2,109 58
Balance overexpended March 31, 1915.. .. .		109 58	—
Total.. .. .	\$	2,109 58	\$ 2,109 58
Preparation and printing, bulletins and pamphlets..	\$	1,702 30	
Maritime Farmer, 50¢1, 4 months subs. for members of Agricultural Societies.. .. .		407 28	
		—————	\$ 2,109 58

Details of the expenditure for Bulletins will be found in the report of 1913-14, page 51. The balance of the expenditure covered four months' subscription to *The Maritime Farmer* for 5,091 members of agricultural societies.

9.—*Travelling Instructors.*

Grants, 1913-14, \$14,200; 1914-15, \$13,000.. .. .	\$	27,200 00	
Expended to March 31, 1915.. .. .		.....	\$ 25,628 30
Balance unexpended March 31, 1915.. .. .		.....	1,571 70
Total.. .. .	\$	27,200 00	\$ 27,200 00

	Salaries.	Expenses.	
L. C. D'Aigle, dairy supt.. .. .	\$ 1,750 00	\$ 964 43	
C. W. McDougall, dairy supt.. .. .	1,750 00	472 35	
N. W. Eveleigh, asst. dairy supt.. .. .	2,116 65	904 36	
R. P. Gorham, asst. hort.. .. .	2,158 32	638 05	
D. B. Flewelling, asst. hort .. .. .	1,708 32	830 34	
H. B. Durost, instructor bee-keeping..	1,620 80	1,025 00	
Seth Jones, instructor poultry.. .. .	1,816 64	805 08	
A. S. Turney, horticulturist.. .. .	1,950 00	255 54	
W. D. Ford, asst. animal husbandry..	1,222 84	412 20	
W. McIntosh, Prov. Entomologist.. ..	1,150 00	—	
	—————	—————	\$ 23,550 02
Amos Downey, poultry, service and expenses.. ..	\$	440 75	
D. B. Holman, horticulture, service and expenses..		451 91	
John Woods, .. .. .		88 95	
A. C. Parker, .. .. .		22 85	
P. N. Vroom, .. .. .		523 77	
H. F. Turney, .. .. .		40 15	
Stenographic assistance.. .. .		364 00	
		—————	\$ 1,932 38
Wagon, sleigh, harness.. .. .		105 00	
Incidentals, boarding horse.. .. .		40 00	
Total.. .. .		—————	\$ 25,628 30

This grant was expended for salaries and expenses of officers of the department and others who carried on instruction and demonstration work among the farmers in connection with the work of the various branches, details of which will be found in the 1913-14 report. This statement covers the salaries and expenses of practically the entire field staff of the provincial department, sixteen in all, in dairying, horticulture, live stock, poultry, bee-keeping, and entomology.



10.—*Women's Institutes.*

Grants, 1913-14, \$2,000; 1914-15, \$3,000.. . . .	\$	5,000 00	
Expended to March 31, 1915.. . . .			\$ 4,723 72
Balance unexpended March 31, 1915.. . . .			276 28
Total.. . . .		\$ 5,000 00	\$ 5,000 00
Hazel E. Winter, supervisor, salary.. . . .	\$	970 80	
Hazel E. Winter, expenses.. . . .		791 58	
Imogene Jonah, instructor in domestic science, salary.. . . .		482 50	
Imogene Jonah, expenses.. . . .		84 11	
Lena A. McLean, adv. agent, salary.. . . .		170 00	
Lena A. McLean, expenses.. . . .		246 86	
Lecturers, organizers, etc., sundry persons, services and expenses.. . . .		360 10	
			\$ 3,105 95
Supplies, etc.. . . . .			233 40
Advertising and printing.. . . .			95 72
Incidentals.. . . .			155 81
Delegates, convention expenses.. . . .			183 55
Library books for institutes.. . . .			464 29
Women's Institute grants (\$5).. . . .			485 00
Total.. . . .			\$ 4,723 72

The expenditure covers the salaries and expenses of the Supervisor and the Instructor in Domestic Science, and of lecturers, organizers, etc. Also grants to Institutes (\$5 to each), Institute library books, convention expenses, supplies and incidentals.

11.—*Demonstration Trains.*

Grants, 1913-14, \$2,400; 1914-15, \$1,000.. . . .	\$	3,400 00	
Expended to March 31, 1915.. . . .			\$ 3,398 86
Balance unexpended March 31, 1915.. . . .			1 14
Total.. . . .		\$ 3,400 00	\$ 3,400 00
	Services.	Expenses.	
C. D. Macintosh.. . . .	\$ 3 00	\$ 17 00	
A. Downey.. . . .	187 00	19 00	
F. Forsyth.. . . .	108 00	32 95	
R. Newton.. . . .	....	373 15	
E. C. Rice.. . . .	65 33	111 80	
J. F. Roach.. . . .	98 00	9 25	
		\$ 461 33	\$ 562 15
			\$ 1,024 48
Advertising and printing.. . . .			703 47
Supplies, furnishings, hire of live stock.. . . .			1,169 78
Incidentals.. . . .			117 46
Board.. . . .			383 67
Total.. . . .			\$ 3,398 86

The services and expenses of the Travelling Instructors who accompanied the trains were charged under this head; also supplies, furnishings, hire of live stock, advertising, etc.

14.—*Drainage and Soil Cultivation.*

Grants, 1913-14, \$4,500; 1914-15, \$2,000.. . . .	\$	6,500 00	
Expended to March 31, 1915.. . . .			\$ 6,991 79
Balance overexpended March 31, 1915.. . . .		491 79	
Total.. . . .		\$ 6,991 79	\$ 6,991 79



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14.—*Drainage and Soil Cultivation.*—Continued.

Drainage Work—		
Ditching machine.. . . . .	\$	2,930 01
Renewals and repairs.. . . . .		444 42
Supplies.. . . . .		595 71
Tile.. . . . .		198 65
Haulage and freight.. . . . .		430 05
Engineer, services.. . . . .	\$	711 42
Engineer, expenses.. . . . .		303 79
J. A. Woods, foreman, services..		722 00
J. A. Woods, expenses.. . . . .		330 54
Labour.. . . . .		100 25
	\$	2,168 00
	\$	6,766 84
Less received for ditching.. . . . .		544 64
	\$	6,222 20
Fertilizer Experiments—		
Grant to Agricultural Societies United.. . . . .	\$	500 00
Supplies, fertilizer, etc.. . . . .		242 92
Labour.. . . . .		26 67
	\$	769 59
Total.. . . . .	\$	6,991 79

Particulars regarding the purchase of ditching machine and its operation were set forth in the Report of 1913-14. The work was continued in a similar way in 1914-15. A part of the cost of the work in connection with fertilizers was charged to this item; also grant of \$500 to the Agricultural Societies United, a fertilizer-purchasing organization.

16.—*Teachers in Agricultural Schools.*

Grant, 1913-14.. . . . .	\$	4,000 00	
Expended to March 31, 1915.. . . . .			\$ 3,918 60
Balance unexpended March 31, 1915.. . . . .			81 40
Total.. . . . .	\$	4,000 00	\$ 4,000 00
Robert Newton, Principal, Woodstock, salary.. . . . .	\$	2,141 66	
“ “ expenses.. . . . .		403 38	
B. T. Reed, Assistant, salary.. . . . .		900 00	
“ “ expenses.. . . . .		406 21	
G. G. Moe, services, lecturing.. . . . .		14 00	
“ “ expenses.. . . . .		53 35	
Total.. . . . .	\$	3,918 60	

17.—*School Gardens.*

Grants, 1913-14, \$1,500; 1914-15, \$3,500.. . . . .	\$	5,000 00	
Expended to March 31, 1915.. . . . .			\$ 3,582 22
Balance unexpended March 31, 1915.. . . . .			1,417 78
Total.. . . . .	\$	5,000 00	\$ 5,000 00
Grants to teachers and trustees.. . . . .	\$	3,470 52	
Prizes for gardens.. . . . .		88 50	
Incidentals.. . . . .		23 20	
Total.. . . . .	\$	3,582 22	

The amount expended covered bonuses to teachers based on the condition of school gardens and grants to trustees for the purchase of equipment and supplies for same; also prizes for gardens. The bonuses to teachers varied from \$10 to \$25 each, and the grants to trustees from \$10 to \$15.



18.—Contingencies.

Grants, 1913-14, \$509.93; 1914-15, \$1,207.20.. .. \$	1,717 13	
Expended to March 31, 1915.. .. .		\$ 940 73
Balance unexpended March 31, 1915.. .. .		776 40
Total.. .. .	\$ 1,717 13	\$ 1,717 13
M. A. McLeod and W. E. Palmer, expenses attending Canadian		
Seedgrowers' Convention.. .. .	\$	97 70
Services of stenographers.. .. .		640 52
One typewriter, Sussex Dairy school.. .. .		117 00
Office supplies.. .. .		45 25
Mailing seed-bags and postage.. .. .		40 26
Total.. .. .	\$	940 73

The expenditures under Sections Nos. 11, 12, and 15 were made in 1913-14, and were dealt with in the report for that year.

AGRICULTURAL AID ACT, 1912.—GRANT, \$24,509.93.

SUMMARY STATEMENT of Expenditure, March 31, 1915.

Horticulture.. .. .	\$	6,181 53
Insect pests.. .. .		1,159 67
Stock and seed judging.. .. .		3,877 64
Women's Institutes.. .. .		3,960 84
Seed selection.. .. .		406 11
Agricultural students.. .. .		883 35
Dairying.. .. .		2,024 95
Rural schools.. .. .		983 09
Poultry.. .. .		3,914 19
Contingencies.. .. .		967 84
Total.. .. .	\$	24,359 21
Balance carried forward to Miscellaneous, 1915-16.. .. .		150 72
Total.. .. .	\$	24,509 93

COMPARATIVE STATEMENT OF EXPENDITURE OF PROVINCIAL FUNDS FOR AGRICULTURAL PURPOSES FOR THE YEARS 1912, 1913 and 1914, AND ESTIMATED EXPENDITURE FOR 1915.

Service.	1912, to Oct. 31.	1913, to Oct. 31.	1914, to Oct. 31.	1915, to Oct. 31, Estimated.
	\$ cts.	\$ cts.	\$ cts.	\$ cts.
Salaries and Travelling Expenses Department.....	5,904 10	6,499 68	7,019 06	9,450 00
Agricultural Societies.....	13,985 31	16,867 66	17,444 84	17,000 00
Dairying, and.....	4,650 74	4,092 28	3,039 53	6,800 00
Live Stock Industries.....	1,480 16	950 45	3,611 78	
Dairy School.....	402 80	537 03	4,067 99	1,000 00
Farmers' Institute.....	2,921 61	1,048 96		
Horticulture.....	5,494 17	4,155 67	1,999 37	2,000 00
Cold Storage.....	750 00	750 00		
Assistance to Scholars.....	981 05			
Poultry Raising.....	2,107 40	1,984 94	980 08	2,000 00
Crop Competitions, Seed Fairs.....	636 10	1,809 44	2,082 77	1,500 00
Exhibitions.....				10,000 00
Miscellaneous.....	443 32	309 59	355 00	1,500 00
Brown Tail Moth, etc.....	1,988 93	999 51	4,481 93	3,650 00
Bonus Mud Dredges.....			1,000 00	1,000 00
Bonus Clover Hullers.....				600 00
Advertising natural products.....				500 00
Limestone crusher and power.....				2,000 00
Farm settlement board.....				1,800 00
Totals.....	41,745 69	40,005 21	46,082 34	60,800 00



## PRINCE EDWARD ISLAND.

The subsidy provided under the Agricultural Instruction Act and its allotment in 1914-15:—

Agricultural education in connection with Prince of Wales college.	\$ 4,000 00
Short courses in agriculture.. . . . .	2,000 00
Live stock judging classes.. . . . .	500 00
Demonstration work in horticulture, sheep and poultry husbandry..	2,000 00
Building for agricultural centre, Summerside.. . . . .	4,000 00
District representative work.. . . . .	4,500 00
Women's Institutes.. . . . .	2,500 00
Office assistance.. . . . .	1,000 00
Introducing nature study in public schools.. . . . .	7,332 81
Total.. . . . .	\$ 27,832 81

### OUTLINE OF WORK PERFORMED.

*Elementary Agricultural Instruction:* The financial assistance received by the province of Prince Edward Island under the Agricultural Instruction Act, is leading to a general reconstruction of all educational work, for the purpose of bringing it into closer touch with agriculture, which affords a means of livelihood, either directly or indirectly, to almost the whole population.

This assistance made possible the adoption of a much more comprehensive system of education than formerly existed, and, accordingly, the curriculum of the public schools has been enriched by the addition of Nature Study, School Gardening and Home Projects. The efforts of the Departments of Agriculture and Education were directed during the year to the perfecting of the system of Agricultural Education thus inaugurated.

In carrying on this new work it was necessary that there should be no duplicating of machinery or overlapping of activities. Instead of appointing one or more directors to supervise the rural science work as distinct from the ordinary subjects of the course, it was decided to regard the new study, not as something extraneous, but as a vital part of the ordinary school curriculum, standing on exactly the same footing as the other subjects of the course and supervised by the regular inspectors.

To provide for efficient supervision, the inspectorates were re-arranged and increased in number from five to ten, and five additional inspectors were appointed. The ten inspectors are nearly all practical farmers as well as practical educationists and are very well qualified for their duties. Each inspector has charge of a group of not more than fifty schools, all of which he can reach without travelling very far from home. He is thus able to give very close and careful supervision to his schools and to become a real educational leader in his small inspectorate.

To secure uniformity of work throughout the Province, and to prepare for the introduction of Rural Science, the inspectors met in Charlottetown for the first three weeks of the month of June, 1914, and held conferences, attended a course of lectures, and carried on practical work in a school garden.

The conferences resulted in the preparation of a course in nature study for the public schools, so amplified as to be of assistance to the teachers, and in a general programme of work for the year. The academic work consisted of thirty-one lectures on soil, insects, plants, drawing, etc. In the school garden, trees and shrubs were set out, and plots laid off and planted with grains, vegetables and grasses. The Dominion Experimental Farm, situated near Charlottetown, was visited, and information obtained that will be particularly useful in the planting of rural school grounds.



6 GEORGE V, A. 1916

The course was planned by the Departments of Agriculture and of Education, and carried out by Mr. W. Davison, B.S.A., Provincial Instructor in Field Husbandry, and Mr. F. F. Smith, B.Sc., of Buzzard's Bay, Mass., assisted by the Superintendent of Education, the Secretary of Agriculture and other officials of the two Departments.

To insure still further the success of the new movement, the Department of Agriculture in July, 1914, provided a second summer school for teachers. This was held in Charlottetown, lasted three weeks, and was attended by about two-thirds of all the teachers in the province. For the guidance of these teachers a well thought out course in nature study was drawn up by educational and agricultural experts; and as an encouragement to put forth their best efforts teachers were given an opportunity to win a substantial bonus by doing well the work of the rural science course. To be entitled to this bonus a teacher must have a well kept school garden properly used in the instruction of the pupils and have also five home projects being conducted in five different homes. Five additional home projects are regarded as equivalent to a school garden and the more home projects successfully conducted the greater the amount of the bonus.

At the meeting of the School Inspectors held on December 3, 1914, they reported that 115 School Gardens had been established, or that arrangements had been made to carry them on in 1915. Home projects had been undertaken by 870 pupils, 545 had agreed to grow vegetable seeds, 58 schools had collections of weed seeds, ranging from 5 to 30 varieties, 18 had collections of mounted seeds, and 5 had collections of mounted insects.

"It is perhaps too early to speak of results, but the outlook is certainly encouraging," states R. H. Campbell, superintendent of education. "We feel that we are on the right track and that we are succeeding in making rural science a vital part of the training of country boys and girls."

*Courses in Agriculture and Domestic Science:* Besides the introduction of agriculture in the rural schools, other forms of the work of agricultural instruction are being carried on with increased vigour and new forms introduced. A four months' course in agriculture has been provided at Prince of Wales College for those young men who have left school and who intend to follow farming for a livelihood. It is not intended to be a preparation for any higher institution, and the particular circumstances of each pupil receive consideration as far as possible. When this course has been completed and the students have returned to their homes they will receive special attention from the department's staff of specialists.

Short courses in the various departments of agriculture and in household science were provided at Charlottetown. Ample provisions were made for all those who wished to attend the former, but less than half of the number who applied for the latter could be admitted. To place the students from the different parts of the province on an equality, the railway fare of all those who attend is paid by the Department of Agriculture.

*Women's Institutes:* The Women's Institute movement has made satisfactory progress and promises to exert a highly beneficial influence on rural conditions. Already thirty-one have been organized with a total membership of 750. The system differs somewhat from that of other provinces. The intention is to have the divisions correspond with the ten school inspectorates, with a field supervisor in charge of each, under the general direction of the superintendent. When organization is complete there will be ten assistants or supervisors. Two have already been appointed. The assistants are required to be constantly in the field among the institutes of their circuits to give demonstrations and lectures and to promote organization, assist at meetings, etc.

An institute may include one, two or three school sections, but not more than three. Regular monthly meetings are held, and it is the desire that the institutes



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should centre their interests around the school and hold their meetings as a general rule in the school-house, thus bringing the mothers in contact with school-room conditions. An annual grant of five dollars is made to each institute on condition that six meetings are held during the year.

Much has been done by the Women's Institutes since the war began in connection with Belgian relief and red cross work.

The short course in household economics inaugurated in 1914 by the department, was continued in January and February of 1915. The course was held in conjunction with Prince of Wales College, Charlottetown, and was in charge of the supervisor of Women's Institutes, assisted by the field supervisors. Several new topics were taken up for the first time, namely, dietetics and nutrition, household furnishing, arrangement of an efficient kitchen, millinery, vegetable gardening, landscape gardening, tuberculosis, household administration, farm home conveniences, laundry, which were all well received.

*New Appointment:* To supervise the new work inaugurated by the department, W. R. Reek, B.S.A., Associate Professor of Husbandry at the Ontario Agricultural College, was placed upon the staff of the Provincial Department in the spring of 1915, as director of agricultural instruction. Mr. Reek has been given a general oversight of the work carried on under the Agricultural Instruction Act.

*Summary:* When the present plan has been completely developed, there will be at Charlottetown, the Department of Agriculture with the provincial staff of specialists. In each of the three counties there will be stationed a district representative who will be assisted by the agricultural and educational specialists, when their services are required. In the rural districts there will be school inspectors (who are at the same time agricultural instructors), and assistant supervisors of women's institutes, working in co-operation with one another, and receiving the assistance of the district representatives and the provincial experts. The schools will be taught by teachers who have had a training in nature study and in household science, and will have at their call the members of the staffs of the Departments of Agriculture and of Education. Those who have completed the common school course may continue their studies, either in agriculture or in household science at the institutions provided in Charlottetown.

"No encouragement, local or federal," states Hon. Murdock McKinnon, Commissioner of Agriculture, in his report for 1914, "has been so productive of good as the grant provided under the Agricultural Act."

FEDERAL SUBSIDY OF 1914-15. SUMMARY FINANCIAL STATEMENT, APRIL 1, 1914, TO MARCH 31, 1915.

Section No	Classification.	Grant 1914-15.	Balance Forward Apr. 1, 1914.	Total.	Expended to Mar. 31, 1915.	Balance Unexpended Mar. 31, 1915.
		\$ cts.	\$ cts.	\$ cts.	\$ cts.	\$ cts.
1	Agricultural Education—Prince of Wales College.....	4,000 00	762 96	4,762 96	3,750 65	1,012 31
2	Short Courses.....	2,000 00	850 88	2,850 88	2,323 65	527 23
3	Live Stock Judging Classes.....	500 00	18 17	518 17	15 00	503 17
4	Demonstrations.....	2,000 00		2,000 00	1,760 34	239 66
5	Agricultural Building.....	4,000 00		4,000 00	4,000 00	
6	District Representatives.....	4,500 00	1,537 75	6,037 75	3,703 43	2,334 32
7	Women's Institutes.....	2,500 00	856 20	3,356 20	2,233 94	1,122 26
8	Office Assistance.....	1,000 00	83 33	1,083 33	1,014 03	69 30
9	Nature Study.....	7,332 81	2,189 54	9,522 35	8,657 44	864 91
	Totals.....	27,832 81	6,298 83	34,131 64	27,458 48	6,673 16



DETAILS OF EXPENDITURE, APRIL 1, 1914, TO MARCH 31, 1915.

1.—*Prince of Wales College.*

Grant, 1914-15.. . . . .	\$ 4,000 00	
Balance brought forward.. . . . .	762 96	
Expended to March 31, 1915.. . . . .		\$ 3,750 65
Balance unexpended March 31, 1915.. . . . .		1,012 31
Total.. . . . .	\$ 4,762 96	\$ 4,762 96
Prof. W. Davison, instructor field husbandry, salary and expenses.	\$	862 29
Prof. W. J. Reid, instructor animal husbandry, salary and expenses		567 16
Prof. J. L. Tennant, instructor animal husbandry, salary and expenses.. . . . .		375 00
T. Ross, expenses.. . . . .		369 04
Scholarships, teachers in training.. . . . .		493 20
Railway fares of students.. . . . .		22 30
Premiums.. . . . .		110 50
Fuel, light.. . . . .		184 43
Supplies, feed.. . . . .		292 48
Services, labour, janitor.. . . . .		300 01
McGregor, contractor, account.. . . . .		140 29
Miscellaneous.. . . . .		53 35
Total.. . . . .	\$	3,770 05
Less revenue.. . . . .		19 40
Total.. . . . .	\$	3,750 65

The salaries and expenses of three professors, Messrs. Davison, Reid and Tennant, were in part provided for, the balance being devoted to scholarships, premiums and general expenses connected with the regular course in agriculture, held in the Agricultural Hall.

2.—*Short Courses for Farmers.*

Grant, 1914-15.... . . . .	\$2,000 00	
Balance brought forward.. . . . .	850 88	
Expended to March 31, 1915.. . . . .		\$2,323 65
Balance unexpended March 31, 1915.. . . . .		527 23
Total.. . . . .	\$2,850 88	\$2,850 88
Theodore Ross, salary . . . . .		\$300 00
J. L. Tennant, salary.. . . . .		125 00
F. T. Morrow, services and expenses.. . . . .		100 00
R. Creed, services.. . . . .		75 00
Scholarships.. . . . .		1,141 50
Supplies.. . . . .		182 71
Water and light.. . . . .		97 76
Labour.. . . . .		123 00
Miscellaneous . . . . .		184 68
Total.. . . . .		\$2,329 65
Less revenue.. . . . .		6 00
Total.. . . . .		\$2,323 65

A short course in horticulture was held at Charlottetown from November 17 to December 5. Twelve students attended. Instruction was given in the making of apple barrels and in packing of apples in boxes and barrels by Prof. Leslie Tennant, B.S.A., of the Department of Agriculture, and by Mr. A. E. Dewar, president of the Fruit Growers' Association. Similar courses were held at Georgetown, Montague and Vernon River.



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Short courses in animal husbandry, in cereal husbandry, and in milk testing were held from January 4 to 15, 1915. The number in attendance was 220. The practical work was carried on by Prof. W. J. Reid, B.S.A., instructor in animal husbandry, Prof. Wilfred Davison, B.S.A., instructor in cereal husbandry, Prof. J. Leslie Tennant, B.S.A., district representative for Kings County; Mr. J. A. Clark, B.S.A., supt. Experimental Farm; Mr. F. T. Morrow, inspector of cheese factories and creameries; Mr. Richard Creed, Albion, Kings County, and Mr. W. R. Shaw, of St. Catharines.

The expenditure covers scholarships, part salaries of instructors and incidental expenses, such as light and water, supplies and labour.

3.—*Live Stock Judging Classes.*

Grant, 1914-15.. . . . .	\$500 00	
Balance brought forward.. . . . .	18 17	
Expended to March 31, 1915.. . . . .	.....	\$ 15 00
Balance unexpended to March 31, 1915 .. . . . .	.....	503 17
Total .. . . . .	\$518 17	\$518 17
<hr/>		
J. M. Laird, expenses... . . . . .		\$15 00

This appropriation was practically intact at the end of the year, and was carried forward and remained available for the subsequent year.

4.—*Demonstrations in Live Stock, Poultry and Horticulture.*

Grant, 1914-15 .. . . . .	\$2,000 00	
Expended to March 31, 1915.. . . . .	.....	\$1,760 34
Balance unexpended March 31, 1915 .. . . . .	.....	239 66
Total.. . . . .	\$2,000 00	\$2,000 00
<hr/>		
Balance over-expended, 1913-14.. . . . .		\$ 237 35
Walter Shaw, salary, 3½ months at \$50.. . . . .		175 00
Supplies and incidentals.. . . . .		1,494 21
Work and expenses .. . . . .		244 27
Total .. . . . .		\$2,150 83
Less revenue.. . . . .		390 49
Total.. . . . .		\$1,760 34

Demonstrations in sheep-dipping were held in Queens and Kings counties, and about 7,500 sheep were dipped. In this work, the Island Sheep Breeders' Association acted in conjunction with the Department.

J. Leslie Tennant, B.S.A., district representative for King's County, conducted demonstrations in spraying, pruning, and grafting in different parts of the province. He had four assistants, two of whom completed the course at the College of Agriculture at Truro, N.S., and the other two the long course in Agriculture at Charlottetown. Most of the work was done in the vicinity of Montague, Summerside and Charlottetown, where it is intended to pack apples for export in the fall of 1915. Island orchards are reasonably free from insect attacks, but the Oyster Shell Barklouse, Bud Moth and Canker worms have been doing some damage.

5.—*Agricultural Building.*

Grant, 1914-15.. . . . .	\$4,000 00	
Expended to March 31, 1915... . . . . .	.....	\$4,000 00
To town of Summerside for building... . . . .	.....	\$4,000 00







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8. Office Assistance.

Grant, 1914-15.. . . . .	\$ 1,000 00	
Balance brought forward.. . . . .	83 33	
Expended to March 31, 1915.. . . . .	.....	\$ 1,014 03
Balance unexpended March 31, 1915.. . . . .	.....	69 30
Total.. . . . .	\$ 1,083 33	\$ 1,083 33
E. Pineau, salary.. . . . .		\$ 376 67
A. W. Newberry, salary.. . . . .		413 33
E. Prouse, " .. . . . .		45 00
N. J. MacLeod, " .. . . . .		179 03
Total.. . . . .		\$ 1,014 03

This expenditure was for extra clerical work at the Department, necessitated by the carrying out of the work inaugurated under the Agricultural Instruction Act.

9. Nature Study.

Grant, 1914-15.. . . . .	\$ 7 332 81	
Balance brought forward.. . . . .	2,189 54	
Expended to March 31, 1915.. . . . .	.....	\$ 8,657 44
Balance unexpended March 31, 1915.. . . . .	.....	864 91
Total.. . . . .	\$ 9,522 35	\$ 9,522 35
W. Cairns, Inspector, salary.. . . . .		\$ 708 35
Chas. Buxton, " .. . . . .		708 35
D. S. Fraser, " .. . . . .		708 35
L. Adams, " .. . . . .		672 94
W. Curtis, " .. . . . .		605 09
Prof. W. D. Davidson, salary.. . . . .		383 34
Prof. F. F. Smith, salary and expenses.. . . . .		349 78
		\$ 4,136 20
Scholarships.. . . . .		3,080 87
Expenses summer school, including expenses of instructors and others .. . . . .		1,384 83
Supplies, labour, materials, travelling, etc.. . . . .		463 49
Total.. . . . .		\$ 9,065 39
Less P. E. I. government grant.. . . . .	\$ 100 00	
Less New Brunswick government grant.. . . . .	100 00	
Less Nova Scotia government grant.. . . . .	200 00	
	\$ 400 00	
Less other revenue.. . . . .	7 95	
		407 95
Total.. . . . .		\$ 8,657 44

The expenditure covers the salaries of five school inspectors, salaries of instructors, the amount paid in scholarships, the outlay for materials, supplies and travelling, and the general expenses of the Summer School of Science.

The Summer School of Science is held every summer in one of the three Maritime Provinces. The three provinces contributed \$400 out of provincial funds. In 1914 it was held at Charlottetown. There were 440 in attendance. Of these 113 were from the Provinces of Nova Scotia and New Brunswick and were purely Summer School of Science students. The remaining 327 were from Prince Edward Island and were chiefly teachers of public schools and school inspectors. Five hours each day were devoted to class work under the best specialists in the teaching profession that could be obtained. The remainder of the day was devoted to laboratory and field work, and to lectures and discussions. The teaching staff consisted of teachers in the Prince of Wales College, members of the staff of the Provincial Department of Agriculture and several specialists from outside the province.



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## FEDERAL SUBSIDY OF 1913-4.—SUMMARY FINANCIAL STATEMENT TO MARCH 31, 1914.

Section No.	Classification.	Grants 1913-14.	Expended to Mar. 31, 1914.	Balance Unexpended Mar. 31, 1914.
		\$ cts.	\$ cts.	\$ cts.
1	Agricultural Education—Prince of Wales College	4,000 00	3,237 04	762 96
2	Short Courses.....	3,306 55	2,455 67	850 88
3	Live Stock.....	1,000 00	981 83	18 17
4	Demonstrations.....	1,500 00	1,737 35	.....
5	Agricultural Building....	4,014 96	4,014 96	.....
6	District Representatives.	4,000 00	2,462 25	1,537 75
7	Women's Institutes.....	2,178 49	1,322 29	856 20
8	Office Assistance.....	1,000 00	916 67	83 33
9	Nature Study.....	5,529 85	3,340 31	2,189 54
	Totals.....	26,529 85	20,468 37	6,298 83

Sec. 4, Over-expended balance..... \$237.35

All of the above balances, unexpended on 31st March, had been expended by 31st March, 1915, with the exception of \$3.17 under No. 3, Live Stock, as may be seen by reference to statement for year ending 31st March, 1915.

## DETAILS OF EXPENDITURE TO MARCH 31, 1914.

## 1. Prince of Wales College.

Grant, 1913-14.. . . . .	\$ 4,000 00	
Expended to March 31, 1914.. . . . .	.....	\$ 3,237 04
Balance unexpended March 31, 1914.. . . . .	.....	762 96
Total.. . . . .	\$ 4,000 00	\$ 4,000 00
W. Davison, salary, \$750; expenses, \$12.18.. . . . .		\$ 762 18
W. J. Reid, salary, \$775; expenses, \$8.52.. . . . .		783 52
J. H. Blanchard, services.. . . . .		25 00
A. E. Dewar, packing-school.. . . . .		60 00
T. Ross, expenses.. . . . .		46 01
		\$ 1,676 71
Heat, light, water.. . . . .		464 44
Labour and supplies.. . . . .		497 68
Scholarships.. . . . .		21 20
Furniture, \$82; books, \$66.05.. . . . .		148 05
Insurance.. . . . .		100 00
Miscellaneous.. . . . .		67 69
Balance transferred from Agricultural building account, Agricultural Aid Act Grant, 1912-13.. . . . .		261 27
Total.. . . . .		\$ 3,237 04

## 2. Short Courses.

Grant, 1913-14.. . . . .	\$ 3,306 55	
Expended to March 31, 1914.. . . . .	.....	\$ 2,455 67
Balance unexpended March 31, 1914.. . . . .	.....	850 88
Total.. . . . .	\$ 3,306 55	\$ 3,306 55



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2.—Short Courses.—Continued.

Scholarships and travelling expenses.. . . . .	\$	1,140	12
Lecturing—			
Theo. Ross, salary.. . . . .	\$	225	00
"    expenses.. . . . .		39	88
Paul Boving, services.. . . . .		30	00
Grace Dutcher, " . . . . .		103	00
F. T. Morrow, " . . . . .		127	05
B. Anderson, " . . . . .		35	00
R. Robertson, salary.. . . . .		150	00
		709	91
Supplies, etc.. . . . .		223	74
Painting, Agricultural building.. . . . .		142	40
B. Stewart, work.. . . . .		233	00
Miscellaneous.. . . . .		6	50
Total.. . . . .	\$	2,455	67

3. Live Stock Judging Classes.

Grant, 1913-14.. . . . .	\$	1,000	00
Expended to March 31, 1914.. . . . .	\$	981	83
Balance unexpended March 31, 1914.. . . . .		18	17
Total.. . . . .	\$	1,000	00
R. Robertson, salary.. . . . .	\$	300	00
W. J. Reid, salary, \$250; expenses, \$150.. . . . .		400	00
Sundry persons, expenses.. . . . .		208	00
Total.. . . . .	\$	908	00
Supplies.. . . . .		28	83
Isaac Ives, seat-stands.. . . . .		45	00
Total.. . . . .	\$	981	83

4. Demonstrations in Horticulture.

Grant, 1913-14.. . . . .	\$	1,500	00
Expended to March 31, 1914.. . . . .	\$	1,737	35
Balance overexpended March 31, 1914.. . . . .		237	35
Total.. . . . .	\$	1,737	35
E. B. McLaren, salary and expenses.. . . . .	\$	117	91
W. Shaw, salary and expenses.. . . . .		88	48
T. A. Benson, expenses, \$25.87; expenses egg circles, \$242.58.. . . . .		268	45
T. Ross, expenses.. . . . .		5	52
Total.. . . . .	\$	483	36
Poultry supplies.. . . . .		942	73
Live-stock supplies.. . . . .		161	25
Equipment.. . . . .		114	32
Express.. . . . .		26	22
Miscellaneous.. . . . .		12	47
Total.. . . . .	\$	1,737	35

5. Agricultural Building.

Grant, 1913-14.. . . . .	\$	4,014	96
Expended to March 31, 1914.. . . . .	\$	4,014	96
Chas. McGregor, contractor.. . . . .	\$	3,450	00
Land.. . . . .		450	00
Labour and supplies.. . . . .		89	48
Miscellaneous.. . . . .		25	48
Total.. . . . .	\$	4,014	96



6. District Representatives.

Grant, 1913-14.. . . . .	\$4,000 00	
Expended to March 31, 1914.. . . . .		\$2,462 25
Balance unexpended March 31, 1914.. . . . .		1,537 75
Total.. . . . .	\$4,000 00	\$4,000 00
R. Robertson, salary, \$1,125; expenses, \$293.92.. . . . .		\$1,418 92
W. J. Reid, salary, \$500; expenses, \$124.96.. . . . .		624 96
Dr. J. McMillan, salary, \$300; expenses, \$26.50 . . . . .		326 50
Sundry persons, expenses.. . . . .		91 87
Total.. . . . .		\$2,462 25

7. Women's Institutes.

Grant, 1913-14.. . . . .	\$2,178 49	
Expended to March 31, 1914.. . . . .		\$1,322 29
Balance unexpended March 31, 1914.. . . . .		856 20
Total.. . . . .	\$2,178 49	\$2,178 49
Mrs. A. E. Dunbrack, salary.. . . . .		\$ 463 81
Miss K. James, salary, \$458.34; expenses, \$165.22 . . . . .		623 56
Miss H. McDonald.. . . . .		35 00
M. A. Martin.. . . . .		2 00
Total.. . . . .		\$1,124 37
Twenty institute grants.. . . . .		100 00
Supplies.. . . . .		97 92
Total.. . . . .		\$1,322 29

8. Office Assistance.

Grant, 1913-14.. . . . .	\$1,000 00	
Expended to March 31, 1914.. . . . .		\$ 916 67
Balance unexpended March 31, 1914 . . . . .		83 33
Total.. . . . .	\$1,000 00	\$1,000 00
W. J. McLeod, services.. . . . .		\$570 03
A. W. Newberry, services.. . . . .		418 72
Total.. . . . .		\$988 75
Less to local government.. . . . .		72 08
Total.. . . . .		\$916 67

9. Nature Study.

Grant, 1913-14.. . . . .	\$5,529 85	
Expended to March 31, 1914.. . . . .		\$3,340 31
Balance unexpended March 31, 1914.. . . . .		2,189 54
Total.. . . . .	\$5,529 85	\$5,529 85
W. Davison, salary and expenses.. . . . .		\$ 332 32
Twelve teachers, salary \$50.. . . . .		600 00
Expenses, twelve teachers.. . . . .		354 92
Dr. S. Robertson, expenses.. . . . .		60 10
J. D. Seaman, services and expenses.. . . . .		107 95
Total.. . . . .		\$1,455 29
Railway fares and bonuses to teachers attending summer schools.		1,500 00
Books.. . . . .		172 45
Supplies . . . . .		88 12
Minorellaneous.. . . . .		124 45
Total.. . . . .		\$3,340 31



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AGRICULTURAL AID ACT, 1912. SUMMARY FINANCIAL STATEMENT.

Section No.	Classification.	Grant.	Expended.	Over-expended.
		\$ cts.	\$ cts.	\$ cts.
1	Agricultural Building.....	4,000 00	4,261 27	261 27
2	Short Courses in Agriculture.....	1,951 47	1,951 47	(Charged to
3	Live Stock Judging Classes.....	168 65	168 65	Agricultural
4	Professor of Animal Husbandry.....	264 80	264 80	Education,
5	Demonstrations in Horticulture.....	144 93	144 93	Prince of Wales
				College, 1913-14).
	Totals.....	6,529 85	6,791 12	261 27

COMPARATIVE STATEMENT OF EXPENDITURE OF PROVINCIAL FUNDS FOR AGRICULTURE.

	1913 to Dec. 31.	1914 to Dec. 31.	1915 Appropriations.
	\$ cts.	\$ cts.	\$ cts.
Farmer's Institutes.....	1,834 50	1,988 35	1,900 00
Field Competitions and Seed Fairs (net).....	987 86	1,148 19	1,700 00
Exhibitions, grants.....	6,587 00	8,575 21	9,250 00
Associations, grants.....	1,361 90	1,247 00	4,950 00
Miscellaneous, Dept. Expenses.....	3,450 38	4,806 72	
	14,221 64	17,765 47	17,800 00

VETERINARY COLLEGES.

The Ontario Veterinary College, Toronto, and the School of Comparative Medicine and Veterinary Science, Montreal, participate under the Act in an annual grant of twenty thousand dollars on the basis of the number of students (British subjects) enrolled in the previous year. The apportionment for 1914-15 was made on the following basis:—

	Students.	Grant.
Ontario Veterinary College.....	199	\$15,607 85
School of Veterinary Science, Montreal.....	56	4,392 15
Total .....		\$20,000 00

One payment only has as yet been made to the Ontario Veterinary College, namely that of 1913-14, amounting to \$15,371.91, which was expended as follows:—

Expenditure—

To March 31, 1915.....	\$ 8,287 10
From April 1, 1915, to October 1, 1915, approximate .....	4,377 39
Total.....	\$12,664 49
Balance on hand, October 31, 1915.....	2,707 42
Total.....	\$15,371 91

Services (to October 31, 1915)—

M. D. McKichan.....	\$ 149 99
S. A. Cudmore.....	125 15
H. G. Wilson.....	149 99
J. N. Pringle.....	78 85
A. H. Hunter, special investigation.....	496 89
Total.....	\$1,000 87



The balance of the expenditure was for the following purposes:—Stationery, typewriting, postage, taxes, water rates, typewriter inspection, gas, telephone, printing, apparatus, supplies, ice, freight, equipment, laboratory supplies, “goods.” etc.

The Ontario Veterinary College was founded by Andrew Smith, F.R.C.V.S., of Edinburgh, Scotland, in 1862. In that year there were but three students. For the year 1914-15 the number was 232, as against an average of 275 for the previous five years. This falling off, which appears to be entirely due to enlistment in the service of the Empire, was still more marked in 1915-16, when the number dropped to 189. But for the war, it seems likely that the attendance would have continued to increase.

In 1908, Dr. Andrew Smith resigned from the institution he had built up during his long term of office from practically nothing. During his regime, some three thousand students graduated. The college was then taken under provincial control, the course was extended from two to three years, and Dr. E. A. A. Grange, V.S., M.S., appointed as principal.

For the school’s accommodation a new building was erected in 1914 at a cost of \$250,000, as described in the report of last year. The College, which is in affiliation with the University of Toronto, grants the degree of V.S. (Veterinary Surgeon) and also qualifies its students for the University degrees of Bachelor of Veterinary Science and Doctor of Veterinary Science.

The number of students enrolled in 1914-15 was as follows:—

<i>Ontario Veterinary College.</i>				
	1st Year.	2nd Year.	3rd Year.	Total
Ontario.. . . .	24	29	34	87
Other provinces.. . . .	18	29	27	74
Great Britain.. . . .	1	3	4	8
British West Indies . . . . .	1	..	..	1
New Zealand . . . . .	..	1	..	1
Total .. . . .	44	62	65	171
United States .. . . .	14	25	21	60
Cuba.. . . .	..	..	1	1
Total .. . . .	58	87	87	232

The following instructors of the Ontario Veterinary College are now serving at the front:—J. A. Amyot, M.B., A. R. B. Richmond, V.S., B.V.Sc., D. King Smith, M.D., V.S., Floyd D. Shaver, B.S.A., C. G. Saunders, V.S., B.V.Sc.

The School of Comparative Medicine and Veterinary Science of Montreal was formed in 1893 by the consolidation of two veterinary schools then existing in that city. The new institution became affiliated with Laval University (Montreal), and was taken under the patronage of the provincial department of agriculture. In 1913, a new building was provided for the school, and the Federal grants of 1912-13 and 1913-14, amounting to \$7,628.09, were used entirely for equipment.

The following is a statement of receipts and expenditure for the year ending June 30, 1915:—

Receipts—	
Cash in bank, June 30, 1914.. . . .	\$ 173 44
Students’ fees.. . . .	2,082 50
Provincial government grant.. . . .	3,500 00
Federal grant, Agricultural Instruction Act.. . . .	4,392 15
Laval University.. . . .	10,000 00
Rental of hospital.. . . .	133 32
Loans.. . . .	2,532 17
Total.. . . .	\$ 22,812 58



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Expenditures

Salaries of professors.. . . .	\$ 4,525 00
Salaries of officers.. . . .	800 00
Expenses of administration, etc.. . . . .	1,042 63
Rental of hospital.. . . .	1,001 85
Equipment and laboratory furnishings.. . . .	2,952 56
Loans repaid and interest.. . . .	2,239 05
Land and new building.. . . .	10,000 00
<hr/>	
Total.. . . .	\$ 22,561 09
Cash on hand, June 30, 1915.. . . .	252 49
<hr/>	
Grand total.. . . .	\$ 22,813 58

The number of students enrolled each year since 1909 was as follows:—

1909-10.	1910-11.	1911-12.	1912-13.	1913-14.	1914-15.	1915-16.
56	55	57	59	60	59	58

The following graduates are known to be serving at the front:—Lt. Col. Piché, Major Duhault, Capt. Daigneault, Capt. Coulombe, Capt. Grignon, Lieut. Trudel, Lieut. Guertin, Lieut. Rainville.



## APPENDIX A.

## THE RURAL SCHOOL AND SCHOOL CONSOLIDATION.

## PARAGRAPHS AND EXTRACTS.

From *The Banker-Farmer*, Champaign, Ill.

"When all our roads are good roads; when country schools are good schools; when farms produce larger yields at greater profits; when farmers unite to upbuild rural life—

Then the children of the farm will scorn to desert this fairest of places for crowded cities; population will be more evenly divided, for many who struggle for a crust in the city will find plenty in the country; wealth will be more evenly divided; there will be less of the doctrine of hate and more of the gospel of love; there will be more 'happiness.'"

In Wright County, Iowa, the Superintendent of Education inquired of five or six hundred children in the rural schools what they proposed to do as their life work. Over 95 per cent of the girls and 85 per cent of the boys declared that, whatever they did, they would have nothing to do with farming.

Two years from that time the question was sent out again to the same schools. Over 70 per cent of the boys and 82 per cent of the girls declared for farming as an occupation. The teaching of agriculture and domestic science in a practical way had been introduced during the two years. That had made the difference.

Consider the position of a child in any of the more remote sections of the rural districts in America to-day, and ask yourself what his opportunities are for training and development and efficiency as compared with those of a similarly endowed boy in an urban community. All that the average country boy has access to is an ungraded school, usually taught in one room by a girl with less training than a high school graduate, receiving \$40 or \$50 a month for seven or eight months in the year, teaching all ages in thirty or more classes a day. If by any chance a boy survives this and desires to go further it is necessary for his father to put him on a train, buy his transportation, send him to a town, pay his board, his tuition, and lose his services during the session, and probably lose him permanently from the country. I have said it before and I am not afraid to repeat it that I do not quite see how a father and mother who are ambitious for their children can gain their own consent to continue to live in remote rural districts under existing conditions.—SECRETARY HOUSTON.

Indiana has consolidated schools in eighty-two out of ninety-two counties. Its law discontinued all schools having attendance of twelve or less and permits those with less than fifteen to be closed.

Since 1904 they have held great educational mass meetings throughout Virginia, addressed by the foremost speakers—statesmen, publicists, educators and others. The message these men carry to every neighbourhood is: "A chance for every child, whether living in the city or country, whether white or black, persuading the community that it is bound to train every child for the community's own sake."

"Turn now," said Professor Christie, of Purdue, "to the children of native stock engaged in the basic industry of agriculture. We find them tramping down a muddy road into a little bare, two-by-four school room that has no pictures, no shrubs, no



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books, no laboratory, where they are taught by a girl sixteen to eighteen years old, just out of high school, with no training, burdened with a multiplicity of duties. And we say that upon these native farmers' boys and girls the hope of America depends."

All over the United States there are springing up rural schools which take farm life as their educational plant and get an education for every child out of that life. Beginning in seed-analysis, seed-testing, milk-testing and the like, they are gradually transforming the old, dead rural school into a new kind of school in which every education process is related to the life of the community. These schools are becoming the laboratories, the counting rooms, the workshops, the economic and social centres of their communities.

Our system of education is a survival of the times when more knowledge was the test of culture. The university is operated in the interest of the graduate school; the high schools assume that every pupil will go to the university or college, the primary and secondary schools are based on the theory that every pupil will pass through all the grades above, and finish with the equipment of a college professor. This is not only absurd—it is criminally absurd.

With every pair of hands there goes a brain. Just how expert the hands may become is dependent on the brains behind them. To the strength of the hands there is a limit; but the resources of the brain are illimitable.

That part of the human being which has no limit to its capacity for expansion is stunted by miseducation, and that part most obviously necessary in production left almost entirely untrained.

A purely academic course of study—the kind we now have—causes the school to become an active emigration bureau, and either depopulates the community or at least keeps it at a stagnant standstill.

People in the city and people in the country must alike assume the duties and responsibilities of citizenship, therefore their schools should be rich in the things needed in the preparation for life and for citizenship, whether one live in the country or city.

The country schools must teach whatever farmers and farmers' wives need to know, because they live in the farm home on the farm and make their living from the soil, unless knowledge of these things can be obtained more thoroughly and more economically through some other agency.

The most important question of citizenship in this country is the improvement of the public schools for the better and fuller education of the boys and girls of the country. The most pressing and difficult phases of this important problem consist in the readjustment of the content of the courses of study on the basis of what the men and women in the country need to know, and in putting into the schools and keeping there teachers prepared to teach these things skilfully and well.

Is it good business, good citizenship or good sense to pay the men and women who are preparing our children for the duties of life less than we pay day labourers on the streets and in factories?

The hope of the agriculture of the future lies with those who are found on the road to school each morning with their dinner pails and bundles of books. If out of the generations that are now coming to majority we shall not find the means of an agricultural uplift then we have a serious cause for discouragement.

If anyone has ever entertained the notion that our college of agriculture, great as it is, will ever train within its walls more than a small percentage of the people on



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the land, he has entertained a fallacy. The most important function that the college of agriculture will perform is in the training of young men and women for leadership in the agricultural field. Whatever knowledge a great majority of the boys and girls of the open country will get out of their environment and of the principles underlying the vocation of farming must be obtained from the public school system.

We must set ourselves seriously at the building up of a sound social and educational life. We are in the grip of fallacious notions if we think that successful spraying and tillage, better varieties of fruit and better methods of handling, however important these may be, are the fundamentals of country life welfare. The social and moral setting of the farm is vastly more important in agricultural welfare than are the technical operations of crop production.

Our whole educational system especially in the elementary and secondary grades falls far short of its purpose and cost. The country children suffer much the most, for their schools are not as good even as the town and city schools, and they should not be discriminated against. Rarely do the country schools shape their work so as to interest the children in the great work of agriculture in which their fathers are engaged.

Farmers have been known to pay as much to a hand or twice as much to a good herdsman as to the school teacher—who may make or mar the whole future of their children.

Our future farmers should come from the ranks of our own people. If we cannot make farm life sufficiently attractive to hold our boys and girls to the old home there is something wrong.

It is ridiculous to see a teacher of this sort who may not know barley from beans, attempting to teach agriculture in a flower pot in the winter time to red-blooded rural youths; yet such has been the teaching in a great part of our rural schools.

After forty years of agricultural education, such as it has been, we are confronted with relatively worse conditions than when scientific agriculture first began to receive serious attention. Average yield of farm crops has been practically at a dead level; the soil is being exhausted at an alarming rate; tenantry is increasing; the rural population is shifting to the city; and the cost of living rises at a rate far in excess of increased capacity to pay. The facts are simply that the data of agricultural science has not been effectively put into possession of the men who till the soil.

A wider education is needed to make agriculture keep pace with the demands upon it and this can be achieved only by vocational schools of agriculture within the reach of every boy on the farm.

Any form of school that weakens the child's interest in the life of his community is deficient in the elemental requisite of the school as an agency of civilization. Something is radically wrong with a school in an agricultural community that develops motormen, stenographers and typewriters and fails to develop farmers, dairymen and gardeners. A course of study prepared with the view of correcting this condition of the first step in reform.

The problem involved in giving an education which shall meet the vocational needs of all the people and which shall promote the bases of prosperity—industry and agriculture—and which shall conserve the resources of the nation, are vast and formidable. All that has been done in vocational education is as nothing compared with that which is yet to be begun. The need for vocational education increases faster than the facilities for providing it.



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CANNOT GROW BIGGER THAN THE SCHOOL.

A leading educator said recently in Ontario:

"If the schools are in a decadent state, the coming generation will have ideas so commonplace that the whole country will suffer, industrially and socially, as well as in the real object of national life—the making of big men and big women. The people of the country will be no bigger than their schools. Too many of the rural school trustees have proved themselves incompetent to handle the case—just as the average farmer falls down as a roadmaker."

A CONTRAST.

THE ONE-ROOM SCHOOL. <i>Probability.</i>	VS.	THE CONSOLIDATED SCHOOL. <i>Possibility.</i>
Poorly paid and poorly equipped teachers, who change frequently . . . . .		Trained teachers who stay.
Teachers who know little or nothing of agriculture . . . . .		Specialists in agriculture, household eco- nomics and farm mechanics.
A young girl without experience, at \$30 to \$40 per month . . . . .		An opportunity for men teachers to re- enter the school.
A bare, unattractive building, badly ven- tilated, heated and lighted . . . . .		A commodious, sanitary, modern build- ing, a centre for a new social life for the community.
Education after the city model . . . . .)		Education meeting the needs of Country life.
Education away from the farm . . . . .{		
Inefficiency . . . . .		Supervision, equipment, libraries and ap- paratus.
Waste of effort . . . . .		Grading of pupils; larger classes; greater interest; more rapid progress.
Failure to sustain pupils' interest . . . . .		Pupils remain at school because the schools fit their requirements.
No advanced work . . . . .		Possibilities of high school work, thus affording high school privileges at home for rich and poor.
A long walk in wet and cold . . . . .		Comfortable transportation, preserving health.
Small circle of acquaintance . . . . .		Increased social life for pupils.
Results not adequate to the cost . . . . .		Full value for expenditure.

CONSOLIDATION OF RURAL SCHOOLS IN THE UNITED STATES.

REVIEW OF BUREAU OF EDUCATION BULLETIN No. 30, 1914.

"Consolidation of schools" is the term used where two or more school districts are made into a single district, one school in one building replacing two or more schools in several buildings.

The primary motives underlying the movement are (a) better education facilities, and (b) decreased cost of education on the school district.

*History and Extent:* The movement for consolidation with a view to securing better educational opportunities for children, had its beginning in Massachusetts in 1875. In 1882 the State abandoned the single district organization and adopted the township unit organization. Consolidation then became much easier, and the movement advanced more rapidly. In 1895 the State provided for the union of two or more townships in sparsely settled districts, which further stimulated consolidation. At the present time the State has comparatively few one-room schools left. Of nearly 16,000 teachers, fewer than 900 are employed in one-teacher schools.



From Massachusetts, the movement spread to other Northeastern States and the West and South. In Ohio in 1912 there was complete or partial centralization in 192 townships out of 1,370 in the State. The new school laws of 1914 were designed to promote centralization, and the township basis was changed to the county basis. In 1912 Indiana had 589 consolidated schools, distributed in 73 of the 92 counties of the state, and 37 per cent of the rural pupils were attending such schools.

These three States, Massachusetts, Ohio and Indiana, have established a greater proportion of consolidated schools than any other States, but it is doubtful if a State can be found in the Union without several examples of successful consolidated schools.

It is noted that the movement has gone furthest in States with large administrative units for school affairs—that is with the county or township organization, and that it has made little headway in States with the small “school district” unit; except in a few instances where state aid has been relatively large. This is illustrated by the States of Indiana and Illinois. Indiana, organized on the township basis, has 600 Consolidated Schools; Illinois, on the district basis, has less than 50. In the latter, school affairs are managed by three trustees in each district. The result being that 30,000 trustees manage 10,000 one-teacher schools and 10,000 teachers. Experience shows that sometimes the district trustees are the most difficult persons to convince of the advantages of consolidation.

In the United States the movement for consolidation has assumed several different forms. In North Carolina for example, two and sometimes three-teacher schools are replacing one-teacher schools. All are located within walking distance of the pupils' homes. In a carefully laid out district of 10 or 12 square miles ( $3\frac{1}{2}$  miles square), with a schoolhouse at or near the centre, few children have to travel more than a mile and a half to and from school. Some counties in Louisiana and elsewhere have limited the number of grades to five in one-teacher schools. For the more advanced grades, a central school is provided to which pupils are transported at public expense.

#### STATE LEGISLATION CONCERNING CONSOLIDATION AND TRANSPORTATION.

That consolidation can make little progress without favourable school laws is well understood. A survey of the laws in force in the several States on this subject makes it apparent that in only a few States are the education authorities given power to consolidate schools without first securing a qualified vote in the districts affected. Certain States have such power, however; others may close schools where the attendance is less than the prescribed number. Schools in Indiana, for example, whose average daily attendance falls below 12 in any year are closed at the end of the year by State law, and the children conveyed to some other school at the expense of the district. In Louisiana the average daily attendance must be more than 10, in Maine 9, Ohio 12. In New Mexico 25 is the minimum, and in Texas 20.

In the majority of States the votes on consolidation are taken simultaneously in each district affected, and must have a majority vote in every district. Under this system one district often succeeds in blocking a movement that is wanted by all the others. In New York, Minnesota, Iowa and Missouri, each district sends representatives to a central meeting, and a majority vote of those present is sufficient to carry the measure.

In several states, special state aid is given to stimulate consolidation. Rhode Island allows to any township consolidating three or more schools, the sum of \$100 annually for each department. Washington grants each consolidated school \$170 annually for each district entering into the consolidation. Iowa assists such schools in maintaining courses in agriculture, domestic economy and industrial subjects. Vermont partly reimburses towns for moneys expended for transportation. Wisconsin gives aid in erecting and equipping the school building and also to transportation. In Minnesota the amount of state aid depends upon the classification of the consolidated school. This is known as the Holmberg Act. It has been copied in part by several States, and is of particular interest.



SESSIONAL PAPER No. 15c

EDUCATIONAL ADVANTAGES.

That the consolidated school offers many opportunities that the one-teacher school cannot offer, is generally recognized. Principal among these advantages are the following:

(1) Adequate supervision of the teaching work is made possible: Under average conditions the county superintendent cannot visit his schools more than once a year owing to loss of time in travelling. This time is saved with consolidation. In a school large enough to require several teachers, a supervising principal may not only manage the school, but supervise the work of his assistants.

(2) *Classification of pupils.*—In the ideal school children are grouped in classes, each class containing as nearly as possible, children of the same degree of advancement. Competition creates enthusiasm among the pupils. This is lacking in a class of two or three. A teacher can teach a class of six to twelve pupils much easier and accomplish a great deal more than a class of two or three. The number of classes is little, if any, greater in a consolidated school of 150 pupils than in a one-room school of twenty-five pupils. By combining six such schools the work is easily done by four teachers, each giving better service.

(3) *Division of time between study and recitation.*—Better educational results are obtained through the better division of the pupils' time. In the typical one-teacher school in the United States the pupil spends about one-eighth of the school day in recitation and seven-eighths in study (or in idleness or mischief). With eight grades of pupils and from twenty-six to thirty-two recitations to be conducted each day, almost the whole of the teacher's time is taken up in hearing recitations; she has little time for teaching. Consolidation makes fewer classes to each teacher. If four one-teacher schools with eight grades in each are brought together into one school and four teachers retained, each would have but two grades instead of eight, and the pupils would devote one-half their time to recitation and one-half to study.

(4) *Special subjects of utilitarian value may be taught.*—Little can be taught under the difficult conditions of the one-room school but "the three R's." The teacher can give little agricultural work, manual training or domestic science. These are "living" subjects to most boys and girls; they are part of their lives. Not only have they practical value, but may form a foundation for academic work. These subjects, together with music, drawing, sanitation, etc., may be taught in the consolidated school.

(5) *High school grades may be easily added to the consolidated school.*—Consolidated schools of any size are seldom found without high school departments. In rural sections served by one-room schools pupils must be sent away from home for their high school education, if they are to receive any, to the nearest town or city, where they are drawn away from country life, to say nothing of the injury that often results from the removal of home influences at the period in their lives when such influences are most needed.

The formation of high school departments is probably one of the greatest results accomplished through consolidation, making advanced education practicable to many who would otherwise have been debarred from it. Many are stimulated to take high school work through the enthusiasm of their class-mates who otherwise would have failed to complete the elementary work. A great increase in high school students has been the result.

(6) *Socializing influences.*—Pupils gain much education and breadth of view in contact with the larger number of pupils met in the consolidated schools. This influence spreads through the community. It is difficult for the one-teacher school to



be a social centre; it is easy for the consolidated school to become such. Teachers like to live and work where they may have the association of other teachers. In consequence better teachers may be obtained.

(7) *A permanent teaching staff.*—In schools of four or more teachers relatively few changes take place. There is never a complete change of staff, as always takes place in a one-room school when the teacher resigns, the result being that the child's progress is delayed. Permanency is essential in making a school efficient. A good principal is always essential. Teachers' homes in connection with consolidated schools are becoming common.

(8) *General results.*—A larger enrolment, more regular attendance, longer terms. Where transportation is furnished the improvement in attendance is very marked.

#### TRANSPORTATION OF PUPILS.

Authority is given by forty-three state legislatures to expend public funds for the transportation of children to schools, provided the children live outside of a reasonable walking distance. Consolidated districts of from 9 to 12 square miles may be established without transportation. Certain States require that transportation shall be furnished where the distance to be travelled to school is  $1\frac{1}{2}$ , 2 or  $2\frac{1}{2}$  miles, as the case may be. In other States the law is permissive only.

The success of furnishing transportation seems to be universal wherever properly handled. The details are of extreme importance, for the consolidated schools to which children are conveyed cannot be satisfactory unless the transportation itself is satisfactory.

The case is well stated by the Superintendent of Public Instruction for the State of Indiana:

"The great objection which must be met in consolidating our rural schools is transportation. Many parents object, and with good cause, to the fact that their children are transported too great a distance and that they are compelled to leave home too early in the morning and are returned too late in the evening. This demonstrates that the unit of consolidation is too large. A readjustment of the consolidated area should be made, and the pupils affected should be transported a reasonable distance. In rural communities where good roads cannot be maintained throughout the year the people must be content with the district school. Where the unit of consolidation is not too large transportation of pupils has made attendance larger, more regular, and eliminated tardiness. Transportation has been a great aid to the health of the children. They are not compelled to walk through the rain and in the mud, wearing wet shoes all day. In the majority of places where we have consolidation the school officials have been very careful to get responsible men as drivers of the school wagons. Consequently, the pupils are under the care of some responsible person all day, the girls are protected on the way to and from school and the boys influenced from the temptation to quarrels and other misconduct.

"The success of the consolidated school depends in very large measure upon transportation. If the transportation is safe, comfortable, rapid, and in charge of men of high character, no troubles result from it. When men of low ideals are in charge of transportation or when transportation is slow, or when the distance is too great, then certain evils are at once seen, and just complaint is made against the consolidated schools. These evils, however, are all remediable. If the people demand drivers of high character they can be secured. If the officials insist upon rapidity of transportation that too can be done. None of these evils in any way affect the real work of consolidation."

While the wagon is the usual form of conveyance furnished at most schools, many children are transported in all parts of the country by steam and electric roads. In Massachusetts, California and other States, motor busses are coming into use.



SESSIONAL PAPER No. 15c

The expense per pupil in Connecticut is given as \$23.69 for the school year of 184 days, in Minnesota as \$21.70, or 14.5 cents per day, in Iowa as \$20.70, in Northern Ohio \$15 per year, or 9 cents per day.

COST OF CONSOLIDATED SCHOOLS.

Experience proves that the cost of education per child is less in consolidated schools than in one-teacher schools. The smaller the attendance the greater the relative cost. When the cost of transportation is added, however, the cost under consolidation is found to be considerably greater than under the old system.

The most complete study of the relative cost of consolidated and non-consolidated schools is that made by the State of Illinois. These figures show that the total cost of the consolidated schools, not including transportation, was \$33.89 per child; in the district schools, \$36.31, or \$2.42 more. This goes to show that the district schools are not as economical, so far as the cost of education itself is concerned, as the consolidated schools. When transportation is added, the consolidated schools cost \$12.81 more than the district schools. To offset this, the educational opportunities given by the consolidated school are far greater. Practically all the consolidated schools in the State maintain high school departments, and the per capita cost in high schools is always greater than in elementary schools. The consolidated schools were maintained twenty days longer during the year than the district schools, they employed better teachers at higher salaries, and also a principal who supervised the work of the other teachers. It would appear therefore that the advantages of consolidation more than compensate for the increase in cost due to transportation.

CONSOLIDATION IN ONTARIO.

In respect to consolidation of rural schools, this movement has made, as yet, little progress in Ontario. There are only two consolidated schools in the province, that at Guelph established originally through the generosity of Sir William Macdonald, and not in itself, from the economical standpoint, a good illustration of how school sections may be combined to advantage, and the other at Hudson in New Ontario, where one school is made to serve a large area. The latter is not sufficiently well established to serve for purposes of illustration and comparison. The school laws contain provisions by which rural school boards may combine. But thus far, no progress of moment has been made.

CONSOLIDATION IN QUEBEC.

BY J. C. SUTHERLAND, B.A.

The school year which closed in June, 1915, was the first under the new system of special grants from the Government of the province to aid consolidation of rural Protestant schools. In making these grants, the Government recognized the fact that the Protestant schools are more particularly in need of this plan of concentration. The response of the school boards has not, however, been very marked. There is still a good deal of hesitation about accepting a new system. Part of the aid for the year was given to boards which had already adopted the principle of conveyance. Practically there was only one case of new "complete" consolidation—the word "complete" being used to denote the union of several elementary schools into a model school. In Quebec, of course, the model school corresponds to an advanced public school, doing part of high school and therefore well equipped to do good work in agriculture. A considerable amount of ordinary ("partial") consolidation, where the



school is not raised to higher rank, is constantly reported by the inspectors. This, in general, is due to economic necessity, and special aid is not asked for as the saving in salaries for the conveyance of the few pupils requiring it.

The sentence above with regard to the "response of the school boards" needs some modification. A number of them are anxious and willing to adopt the system, and recognize that there is no alternative in many municipalities, but too often, their hands are tied by opposition of the districts. The attachment to a wretched schoolhouse, attended frequently by only half a dozen pupils, is inexplicable, on reasonable grounds when conveyance to a good, well-equipped and well taught school is possible, but it is a condition which progressive boards have to meet constantly, and which they find difficult to overcome. Constant public education on the question is still required. The strongest incentive to consolidation should be the realization of the fact that it affords the opportunity of giving a better and broader education than the one-roomed school possibly can give, but too often, apparently, this higher ideal is not grasped.

In the July, 1914, number of the *Agricultural Gazette* I pointed out one advantage that Quebec possesses in the matter of bringing about consolidation, namely, that the school municipality in this province is a large unit, usually embracing a whole township, with anywhere from two to twenty or more schools under the one board. This advantage may sometimes work disadvantageously, however, as the following illustration will show. Two years ago partial consolidation was adopted in a certain municipality in the eastern townships. Two schools were closed, and the pupils conveyed to a third in a village centre. Apparently the experiment was most successful. The inspector was able to report that the average attendance from the two closed districts was greatly improved. The pupils enjoyed the ride to school, and went far more regularly than when the schools were at their own doors. But at the end of the second year (last June), opposition to the plan arose. The chief ground of the opposition was that "it was costing more" than under the old system and the ratepayers had the "proofs" in their school tax bills. As a matter of fact the plan had not cost anything more than the old system. The saving in two salaries had paid for the conveyance. But the school board had increased the tax rate from 35 cents to 50 cents on the hundred dollars, not on account of the consolidation, but to meet increased expenditure, in teachers' salaries, etc., all over the municipality.

At the time of writing (July) several new complete consolidations are expected to be in operation in September. One of these will receive special aid from the Hon. Sydney Fisher, who is anxious that the experiment should begin with the adoption of nature study teaching and elementary agriculture by a trained teacher of those subjects. The Hon. Mr. Fisher is the chairman of a sub-committee of the Protestant Committee dealing with the question of extending the work on these lines in the rural schools.

The Department continues steadily to encourage the consolidation movement, and if nothing spectacular can be announced at the present time in this direction, there is, at least, the promise of steadily awakening interest in the subject.

### CONSOLIDATION IN MANITOBA.

Educationalists in Manitoba regard the small school as the weakness of the educational system. In 1910, 62 districts operated schools having an average attendance of 5.1 per school at a cost of \$111.54 per child. In other districts the attendance ranged from 77.9 to 11.7 per school, and there were 129 schools in which the average attendance was 7 or less.

The usual difficulties were met with—among them the difficulty of securing good teachers, the difficulty of maintaining attendance, and the difficulty in inducing children to remain at school after the age of 14.



SESSIONAL PAPER No. 15c

The question of consolidation first received attention in 1903. At that time many regarded it as impracticable in Manitoba, where the winters were cold, roads bad, and settlement sparse. In 1906, two consolidations were effected, and since that time the number has increased each year, there being 40 such schools in 1912, and 78 in 1915. After nine years' trial the statement is made that consolidation is fulfilling the highest expectations, and is overcoming many of the difficulties under which the ordinary small rural school labours, besides solving many of the problems of country life.

The school inspectors have done much to promote the movement by quietly but persistently doing missionary work while on their rounds from district to district, and by giving information to meetings of trustees as to the procedure necessary to bring the improved system into effect. The work is in charge of a special agent on consolidation, a former school inspector, who is thoroughly conversant with the subject.

The campaign for consolidation conducted by the Department, and the successful working of a large number of consolidated schools has resulted in a marked change in the attitude of the public in regard to them. Public opinion has been educated, and now displays in all parts of the province a very keen interest in educational matters in general and in school consolidation in particular.

To-day there is a far stronger feeling in favour of the movement than ever before. All sections of the province are discussing the question, and, in many, decisive action is being taken. Figures prove that a far larger number of rural children are receiving the benefits not only of education but of a far superior education than was the case under the old system. While there are still some who fear the extra cost of transportation of pupils involves, it is seldom that any other objection is urged against the new system. A strong proof of the satisfaction consolidation is giving is that there is not one case on record in Manitoba where a consolidated district ever manifested any desire to dissolve and return to the old conditions.

*Cost.*—While it is true from the experience of the Manitoba consolidated schools that the operating cost is greater than was usually the case under the old system, it is realized that if the returns for the money spent are made the test, then consolidation is the cheaper; that is to say, there is a better return for the money spent. Some of the largest consolidated schools are costing the least to operate, in a few cases, but a small fraction more than the merged schools cost. In the two largest districts, Starbuck and Roblin, the average operating cost for three years was \$13 per quarter section in the former, and \$12 per quarter section in the latter. The cost of consolidation is met by the taxpayers, aided by generous grants from the Department of Education.

*Transportation.*—This problem appears to have been solved satisfactorily, for in spite of bad roads and inclement weather, comparatively few van trips are missed. It was commonly supposed that the distance to be travelled and the time consumed would be too long. This, it is pointed out, is a matter entirely in the hands of the trustees. If shorter routes are desired, more vans can be put on. Experience goes to prove that seven miles is not too long a van route, and that it may, under ordinary conditions, be travelled in an hour. The average cost per day of running school vans is placed at \$3.

*Starbuck.*—This consolidation comprises three districts or  $59\frac{1}{2}$  sections of land. The site, which cost \$1,000, consists of 10 acres. The school is built of brick on stone foundation, two stories high, with full sized basement, and ventilated class rooms, a laboratory, a room for chemical and physical apparatus and a library. In the basement are two play-rooms which can be thrown into one. Drinking water is supplied to each room, and a modern fire escape is provided. Sanitary lavatories, furnace room, coal room and store room are provided.



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The cost of building, site, furniture and equipment was \$17,000. This was met by the sale of the old school properties and the issue of debentures.

The staff consists of a principal and two female assistants. The work includes all the grades of the elementary school and for second and third class teachers' certificates.

Average levy for three schools before consolidation, 15.1 mills or \$9.66 per quarter section.

Average levy for three years since consolidation \$14.29, or an increase of \$4.63 per section.

The following shows the cost of the school for one year:—

*Receipts.*

Legislative grant.. . . .	\$ 520
Municipal grant.. . . .	960
Transportation grant.. . . .	750
Total.. . . .	<u>\$ 2,230</u>

*Expenditure.*

Teachers' salaries.. . . .	\$ 2,250
Caretaker.. . . .	260
Sec.-treasurer.. . . .	50
Transportation.. . . .	1,500
Fuel.. . . .	400
Incidentals.. . . .	140
Total.. . . .	<u>\$ 4,600</u>
Less grants.. . . .	<u>2,200</u>
Amount to levy.. . . .	<u>\$ 2,400</u>

The advantages of consolidation in this instance are thus briefly stated.

(a) Comfort, convenience, equipment, beauty. Large and attractive grounds. Better heating, lighting and ventilation.

(b) Pupils travel comfortably in all weathers; arrive in better condition for work; attend more regularly.

(c) Better grading, better supervision, resulting in better work in the time allotted.

(d) Free high-school education for rich and poor alike.

(e) Better facilities for taking up special courses in agriculture, school-gardening, nature study, domestic economics and manual training.

*Roblin:* Six districts were consolidated in 1912 to form the Roblin (Goose Lake) school. The area served comprises 94 sections of land and the village of Roblin, and is said to be the largest in the Dominion. Eight vans transport 100 children. The longest route is nine miles and the shortest six miles. In the first year of operation only one trip was missed, and that on account of illness of the driver. Except where the houses are close to the road the vans call at the doors. The drivers have the same authority over the children as the teachers have.

Two male and two female teachers were employed in 1912, the number being afterwards increased to five. The balance of cost in 1912, over and above the grants received was made up by a special levy of \$12 on a quarter-section, or 15 mills. The taxes were less than in some rural districts where only three or four children attend. The staff includes an agricultural specialist, and has introduced courses specially suited to the farm boys of the district. The success of this school is said to have greatly exceeded expectations.



SESSIONAL PAPER No. 15c

*Courses in Agriculture:* Five schools in the province, namely, Dauphin, Roblin, Holland, Stonewall and Teulon, have added agricultural specialists to their staffs and have introduced a course specially suited to farm boys. This course extends from November until March and thus accommodates boys who are obliged to work on the farm during the summer. The work covered during two winters is similar to that covered by students of the first and second years at the Manitoba Agricultural College. Some of the boys who have taken two winters' course, purpose continuing their education at the college. During the summer, each boy carries on home projects in alfalfa growing, seed selection and crop rotation.

At the close of each winter term, a judging contest is held at the Agricultural College for teams from these classes. Three boys represent each school in the following competitions:—

- (1) Cattle judging—beef type.
- (2) Cattle judging—dairy type.
- (3) Horse judging—agricultural class.
- (4) Grain judging—wheat, oats, barley for seed purposes.
- (5) Milk-testing—the percentages of butter-fat.

### CONSOLIDATION IN SASKATCHEWAN.

In 1913, an amendment to the School Act was passed to permit the area of school districts to be enlarged to fifty miles, such districts to provide for the expense of transporting pupils who resided more than  $1\frac{1}{2}$  miles from the school. Under the above, 11 districts were organized in 1913 and 1914. Nine of these are still in operation, but two have reverted owing to the difficulties and expense of conveyance. Much higher work is being attempted in these schools than was possible in the rural school. Many possess from three to six acres of land, and the way is being prepared for rural high schools in which the pupils will receive a sound general education, with a good knowledge, theoretical and practical, of the sciences intimately connected with agriculture and rural life.

Many difficulties have been experienced, among them, sparse population, opposition on account of increased taxation, and the distance to be travelled. Consolidation has made a fair start, however, and is resulting in better teachers, buildings and grounds and more regular attendance. The rate of taxation varies from \$13 to \$30 on a quarter section, and although slightly more than the ordinary rural school, the ratepayers are generally well satisfied with the value received for the money spent.

From report on Consolidation in Saskatchewan, 1915, by A. W. Cocks, Director of School Agriculture.

### THE MACDONALD CONSOLIDATED SCHOOLS.

Under the Macdonald Rural School Fund, four consolidated rural schools were established between the years 1903 and 1905, one in each of the four provinces—Ontario, New Brunswick, Nova Scotia and Prince Edward Island. In each case a new building was erected to take the place of the small schools previously serving the sections consolidated. They were equipped with classrooms, assembly halls, and also for manual training, household science and school gardening. These subjects were included in the course of instruction to contribute to the end the founder had in view—to build up an interest and improvement in rural life. Specially trained teachers were provided, and the children were conveyed to and from school in school vans.



It was agreed that for a term of three years the sections interested should contribute an amount equal to their average previous payments for school purposes. To this the statutory grant was added, and expenses over and above being met by the fund. At the end of the period the people were to decide by vote whether to continue the school and assume its support or go back to the old system. Further financial aid, however, was contributed in all cases from the fund after the agreement had expired.

The following description of the Kingston School in New Brunswick will indicate what was provided in buildings and equipment.

"The Macdonald building is a commodious structure placed on a lot of about three acres. On the ground floor are two rooms for the younger pupils, a store-room and a manual training room well equipped with benches and tools. On the first floor are two rooms for more advanced pupils, a laboratory, a library, and a room for household science, which includes sewing, cooking, laundry work, home nursing, and sanitation. Under the roof is a spacious assembly room, while the large, airy basement is used as a playroom in bad weather. The grounds are well laid out and planted. In the rear of the building is a playground, and a school garden and orchard, and on one side stabling accommodation is provided. The difference between the course of study here and in the ordinary country school is sufficiently suggested by the difference in equipment. The orchard, the grafting tools, the pruning knives, the spraying apparatus, and the kitchen with its household appliances, the sewing tables, the benches and tools, the laboratory for indoor work in winter—all utterly foreign to the ordinary school—are here for a definite use.

#### OUTLINE OF THE MOVEMENT AND ITS RESULTS.

*Ontario.*—Five rural districts in the county of Wellington were consolidated in 1904 in a school near the city of Guelph. The city itself was not included. At the end of the three years, three of the districts withdrew, and two now comprise the consolidation, with about 40 additional pupils from surrounding districts in attendance. The situation of the districts withdrawing was such that pupils had to be conveyed across the city to the new school. To this fact may probably be attributed the main reason for the withdrawal.

Increased expense has been the chief criticism, "the ratepapers not having arrived at the point where they considered industrial subjects of sufficient significance to warrant the cost of the undertaking." But it is to be noted that only one ratepayer who had children at school in the three retiring districts voted for withdrawal, and that the majority against continuing was small in every case.

The kind of education that this school was established to demonstrate still continues.

*New Brunswick.*—The Kingston Consolidated School was opened in 1904, and served an area that was formerly seven rural school districts. Some of them had maintained school only part of the year. The population is sparse, and consequently the distance the vans travel is long. The roads are rocky and hilly, and the expense of conveyance is heavy.

The Director of Elementary Agricultural Education in New Brunswick says that the school was entirely successful from the outset, and has done excellent work. Both enrolment and attendance increased. After graduation, many pupils continued their education at normal school, college, or elsewhere. Many pupils under the old system would never have risen above the fourth grade.

At the end of the three years, all districts voted to continue the consolidation. The Macdonald assistance has now been withdrawn entirely, and the school is supported by the people assisted by provincial grants.



SESSIONAL PAPER No. 15c

*Nova Scotia.*—The Macdonald School located at Middleton was opened in 1903, eight sections consolidating. The cost of operating was about \$11,000 per year for the first three years, nearly half that sum going to meet the expense of transportation.

The school was admittedly greatly superior to any of the individual schools. The manual training and home economics departments became very attractive, not only to pupils but to parents as well, and lent a new interest to school life. The pupils appreciated the changed conditions, and seemed happy and contented in their work.

After all assistance from the fund ceased, all except one small district adjacent to the town withdrew from the consolidation. Here again the cost of transportation proved the stumbling block. At the present time the work in manual training and home economics is being continued, but agricultural work has been abandoned, and classics more generally introduced.

*Prince Edward Island.*—Hillsboro was selected for the Macdonald School in this province. Six districts were consolidated, and the new school opened in the summer of 1905. Each of the districts had previously had a one-room school of “uninviting and cheerless surroundings.” Boys over twelve usually attended for only a few months in winter, and the total salaries of six teachers amounted to \$1,190.

At the end of the three year agreement, three of the six districts remained in consolidation and agreed to pay 40 cents on \$1 property valuation as against 11 cents under the old system. This was supplemented by statutory grant, and, as in other cases, a further contribution was made from the Macdonald fund. Dr. Jas. W. Robertson made up the difference. While the school was apparently successful in bringing about the form of education the promoters had in mind, it nevertheless was closed in 1912 for lack of financial support. The buildings and equipment remain idle, and the one-room district schools are vainly attempting to do the work of educating the boys and girls of the community.

ONTARIO.

PUBLIC SCHOOLS IN 1912.

	Rural.	All Public Schools.
Number.....	5,313	5,939
Number of pupils enrolled.....	210,732	405,725
Average attendance.....	114,181 (54%)	251,475 (62%)
Amount expended in sites and buildings.....	\$559,600 (24.14%)	\$2,469,767
Amount expended in rent, fuel, and other expenses.....	\$731,658 (19.11%)	2,108,222
Amount expended in teachers' salaries.....	\$2,808,200 (55.25%)	5,652,747
	\$4,152,678	\$10,230,736
Cost per pupil enrolled.....	19.70	25.21

The attendance in the rural schools of the province decreased ten per cent in the ten years, 1903-12.

NOTE.—While the average attendance in all the public schools of Ontario was 62 per cent of the enrolment, the average attendance in rural schools was only 54 per cent.

In the same year, in Manitoba, the average attendance in all schools was 55 per cent of the enrolment, but the average attendance of pupils conveyed to consolidated schools was 73 per cent of the enrolment.



## APPENDIX B.

## SCHOOL INSTRUCTION IN AGRICULTURE, FARM MECHANICS AND HOME ECONOMICS.

## AGRICULTURE IN HIGH SCHOOLS IN THE UNITED STATES.

Sixteen years ago, or even ten years ago, states the report of the United States Department of Agriculture for 1912, the public high school was hardly thought of as an effective agency for the education of the rural people along vocational lines. Of recent years the growth has been increasingly rapid. At the present time (1912) such schools constitute over eighty per cent of the agencies engaged in teaching agriculture in the United States, excluding the one-teacher elementary schools.

Wherever the teaching of agriculture has been taken seriously, wherever suitable equipment and capable teachers have been provided, the schools and everyone connected with them have been benefited; the attendance has increased, the school work has assumed a more business-like air, as if it dealt with the realities of life, with real problems instead of imaginary ones. Where the high school reaches out to the surrounding homes and farms for its problems and illustrative material, it soon acquires a hold and exerts an influence upon the community such as other schools have never been able to get. It is not merely that a new subject has been added to the curriculum, but the school has changed front. Instead of trying to educate a select few for professional positions it is endeavouring to educate for everyday callings in the home neighbourhood.

The type of school coming under review is the public high school in which a department of agriculture has been established, or a teacher of agriculture employed, or an agricultural course conducted by a science teacher who has had some agricultural training.

In eleven states financial aid is given by the state to the teaching of agriculture in high schools. Many more encourage such work, some by subsidizing teachers' training courses, and all but Delaware and Rhode Island have one or more high schools in which agriculture is taught. In all there were in 1912, 1910 high schools and academies teaching agriculture. Of that number 289 were receiving state aid and 1,621 were not.

A study of the distribution of public high schools in which agriculture is taught reveals the interesting fact that 77 per cent of them are contained in the two groups of states in the Mississippi valley, known as the North, Central and South Central States. The remainder are distributed about evenly between North Atlantic, the South Atlantic and the Western States. When it is remembered that the central groups of states contain two-thirds of the farm population, this distribution does not seem disproportionate. Nor is it surprising that the agricultural colleges in those states enroll over 64 per cent of the college students in agriculture in the United States.

## STATES GRANTING SPECIFIC APPROPRIATIONS IN 1912 FOR AGRICULTURE, MANUAL TRAINING AND HOME ECONOMICS.

*Virginia.*—Appropriation, \$65,000, including \$25,000 to aid schools in providing buildings and equipment and \$10,000 to aid them in conducting extension work. Object, to provide courses in agriculture, home economics and manual training. Ten schools, one in each congressional district are dividing the funds equally through the State Board of Education.



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*Maine.*—This state grants a sum not to exceed \$500 a year to any one school to aid instruction in the departments referred to. Eight high schools received aid in 1912.

*Minnesota.*—Grants \$2,500 a year to 30 high, graded or consolidated rural schools maintaining such courses. Also \$1,000 a year to 50 schools maintaining courses in agriculture, and either in home economics or in manual training.

*Louisiana.*—A grant of \$50,000 a year is used by the State Board of Education in subsidizing high schools maintaining agricultural departments. The minimum requirements are: a demonstration farm of five acres, an option on an additional five acres, a barn for horses and cattle, fertilizer and tool rooms; tools; implements and teaching apparatus up to a certain value, a horse or mule. The districts must appropriate \$250 or more annually for maintenance. The teacher of agriculture must be a college graduate with practical farming experience. He must confine his teaching to agriculture, but may include botany and zoology, if these subjects are given an agricultural trend. He must be employed by the year. In 1912, twenty-five schools had qualified for state aid.

*Maryland.*—Four-year high schools having not less than 80 pupils and 4 teachers, two of whom teach agricultural and kindred subjects, receive an annual grant of \$800. Three-year high schools having 35 pupils and two teachers receive \$400 on account of a special subject. In 1912, six schools qualified. This aid is intended to encourage good salaries for teachers as well as to stimulate the teaching of the special subjects referred to.

*New York.*—Legislation provides for grants to schools maintaining special departments for not less than 38 weeks in the year. Each course must have at least 25 pupils and employ one teacher exclusively. For the first department \$500 is given, and \$200 for each additional department teacher. Classes of book study only are not entitled to benefit. In 1912, 17 schools qualified.

*Kansas.*—Appropriates \$25,000 to enable the State Board of Education to give \$250 for the maintenance of a course in agriculture and home economics in high schools having a normal training course. One hundred schools applied for state aid in 1912.

*Massachusetts.*—Pays two-thirds of the salary of teachers of agricultural departments of high schools, provided such departments meet the approval of the State Board of Education "as to organization, control, location, equipment, courses of study, qualifications of teachers, methods of instruction," etc. The State Board has moved very cautiously in making its plans for these schools, and has made its requirements so rigid as to type of teacher and co-operation of neighbouring farmers in the practical instruction that in 1912 only four schools had qualified.

*North Dakota.*—Conditions under which assistance is given are similar to those in Minnesota.

*Texas.*—Appropriates \$50,000 a year to duplicate local appropriations. The high schools are divided into three classes, and the grants made for all three subjects in schools of the first and second class, agriculture receiving \$500 to \$1,500, home economics and manual training from \$500 to \$1,000 for each course. In schools of the third class only agriculture is aided to the extent of \$500 to \$1,000. The maximum state grant is \$2,000. In 1912, 34 schools received aid.

*Wisconsin.*—The provisions are similar to those of New York. The agricultural course involves four high school units in agriculture and agricultural chemistry. Fifteen schools qualified for grants in 1912.



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*Summary.*—With state aid varying from \$250 to \$3,000 to each school, nearly 300 high schools had in 1912 employed special teachers of agriculture and secured more or less special equipment for the class room, laboratory and field work of the students.

#### FARM MECHANICS IN HIGH SCHOOL AGRICULTURAL COURSES IN THE UNITED STATES.

Progress is evident in making the farm mechanics work of the high school applicable to farm conditions. The shopwork as carried on in many of the schools has up to the present savoured too much of manual-training exercises in city schools, but in some schools, at least, this class of work has been reduced to a minimum, and the making of useful articles for the farm, like gates, fences and small buildings has taken the place of cabinet work and patterns for the foundry. Similarly in the forge shop, the making of rings, hooks, clevises, etc., and the repair of farm machinery is taking the place of fancy work for exhibition purposes. Pupils are learning to put in waterworks, plumbing, concrete walks and foundation; to make small greenhouses, lath houses, and cloth houses for horticultural work, and to actually erect some of the buildings needed by the school.

In the rural engineering phases of instruction there is usually some drainage work, irrigation in semi-arid regions, and shopwork. The field work in drainage includes some practice in surveying, planning, and occasionally in laying drain tile on school farms. (Yearbook, United States Department of Agriculture, 1912.)

#### HOW MINNESOTA'S SCHOOL SYSTEM MEETS THE DEMANDS OF RURAL LIFE.

##### REVIEW OF U.S. BUREAU OF EDUCATION, BULLETIN No. 20 "THE RURAL SCHOOL SYSTEM OF MINNESOTA."

Minnesota is an agricultural state with an area of 83,365 square miles, divided into 86 counties, and having a population, in 1910, of 2,075,708. Minnesota appreciates the value of a system of schools organized to prepare farm boys and girls for life on the farm.

Perhaps no other State has been quite as successful in establishing a system of schools intended to meet the demands of modern rural life. Under that system rapid progress is being made in organizing or reorganizing the schools with that end in view.

The fact is recognized in Minnesota that preparation for life in rural communities can be given, but only in schools that are organized to meet rural needs. The one-teacher school cannot provide the kind of education demanded in preparing the children for practical and contented life on the land. The one-teacher school was a pioneer institution. It answered well enough the needs of pioneer days when the farm produced whatever the family needed in the way of food, clothing and tools. In the days when the manual industries were taught at home the schools could devote all their time to cultural book elements. To-day the average home can no longer teach these elements nor can it supply the information needed by a generation of commercial farmers. Hence the schools must take over the responsibility by offering courses in agriculture, household economics, manual training, or farm mechanics, and other vocational subjects.

Minnesota presents a variety of units of school organization. Throughout the central and southern parts of the State, the small districts with their one and two-teacher schools prevail. Some are well built and well taught, but many are inefficient and can do little or nothing towards improving modern agricultural life.

Small school units cannot maintain strong farm schools, and a large number of States in the Middle West, including Minnesota, are seeking to attain a more satis-



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factory unit of organization than the prevailing small district. Minnesota affords a notable example of what may be done for consolidation and centralization in the large undivided districts in the northern part of the State. The larger the unit, apparently, the easier it is to consolidate the schools, and experience in Minnesota seems to point to the county as the natural unit of school organization wherever it is the unit for civic administration.

The Minnesota schools are striving to make all their activities more practical. Formerly, the sole aim of the common school was to prepare pupils for a high school lying beyond the reach of a large majority of the pupils. The schools and courses of study are now being reorganized and designed to provide both knowledge and skill, and by supplying "industrial instruction" to fit for immediate life activities.

Under excellent guidance on the part of its educational leaders and sane and liberal aid laws, a remarkable system of industrial schools has been established throughout the State. Some of the schools coming within the classification rank as State high schools; some as Holmberg Consolidated Schools, and some as associated schools. In all these schools, agriculture, household economics and manual training are of first importance.

At the present time 40 high schools and two graded schools receive the annual special aid of \$2,500 under the Putnam Act, and 81 additional high schools and 15 additional graded schools receive special aid of \$1,800 under the Benson-Lee Act. These schools receive additional aid as State high schools or as consolidated or associated schools. To qualify for the Putnam grant, a school must maintain distinct departments in agriculture, household economics and manual training. To qualify under the Benson-Lee Act a distinct department of agriculture and a department in either household economics or manual training must be maintained. For these subjects specially trained instructors must be employed. Each school drawing special aid for agriculture must provide land for school garden, experiment and demonstration. Under the Putnam Act not less than five acres is necessary. The schools are required to organize short courses whenever advisable for young men and women who cannot attend the regular courses. Also agricultural extension courses for old and young, given in co-operation with the State College of Agriculture and the three secondary State schools of agriculture. In this work the county agricultural instructors lend valuable assistance.

The departments of agriculture are well equipped and taught by agricultural college graduates. The course is of cumulative growth, beginning as nature study in the early grades, continuing as text-book work in the higher grades, and taking up farm crops and live stock in the first two years of high school work. The best equipped schools offer in their third and fourth years work in soils and farm management. In 1912-13, 3,631 students were enrolled in agriculture, and in 1913-14 the number had reached 4,053.

None of the departments is more popular than that of household economics. More than 12,000 students take courses in some or all of its phases. The large consolidated high and grade schools offer courses extending over eight years. The wholesome in food and the every day practical things of home life receive most attention.

In manual training the work usually extends through the last three years of the elementary schools, and in the high school, throughout the entire course. Many schools have forge rooms, and even the rural schools in school associations are generally equipped with benches and tools. Farm articles are included to a marked extent in the list of articles made. The number of students in this department was 7,350 in 1913-14, and each year since the movement started has shown a considerable increase over the previous years. The total number of students in all industrial departments in 1913-14 was 23,882 as against 8,894 in 1909-10.



## CONSOLIDATED SCHOOLS.

Several States that have striven to consolidate their schools have failed on account of unreasonable laws. Others have been slow to act because they had no state-aid features to offer as an inducement for the change. In some States consolidation has meant only the merging of a number of small schools into a large one, and providing the new school with the traditional town school course of study. It is of little avail to consolidate the schools for country people if merely gathering children together is the end of the reform. If consolidation is to be done well, the new school's course of study, while offering the broadest general culture, must first of all be rooted to the soil, and its activities must reach beyond the four walls of the school into the entire school community.

Consolidation in Minnesota has been done well; the new schools fulfill the promise of providing the right kind of education for rural communities. In this lies the secret of the substantial growth of the movement. While some states have a larger number of such schools, few, if any, have better consolidated schools than Minnesota.

Previous to 1912, Minnesota had practically no consolidated schools. In 1911, the legislature, by passing the Holmberg Act., adopted consolidation as a state-wide educational policy, the object of the measure being to promote a real improvement in rural schools and to encourage the teaching of the elements of agriculture, manual training and home economics. To this end the Act provided such financial aid as to make it possible for rural communities to maintain for their children, in the open country or in the rural villages, graded and high schools as good in every respect as those in urban communities, and at a cost no greater than that in such communities.

The first year under the operation of the Act, 141 old districts were formed into 60 new districts. At the present time the number is 116, with several groups in the process of organizing. The progress of the movement has been particularly strong in the northern part of the State where the small districts have never had a very strong hold upon the people.

The socializing activities resulting from consolidation are regarded as of the greatest importance. The consolidated school became a social centre. The assembly hall is used for neighbourhood gatherings, extension lecture courses, farmers' and women's institutes, boys' and girls' clubs. In this way the schools are able to provide modern substitutes for many of the rural activities that disappeared with the household economy stage of farming.

These schools extend their educational opportunities to old and young alike. They make it possible for young people, who for good reason cannot attend school regularly, to take valuable short courses, or even, in some instances, evening and correspondence courses, while some have short courses for parents. The consolidated schools are also intended to serve as distributing points for the fund of information collected by the Federal Department of Agriculture, and the State College of Agriculture.

The special features of the Holmberg Act are in brief as follows:—

1. Subject to the approval of the Superintendent of Public Instruction, two or more districts of any kind may be consolidated, either by the formation of a new district or by annexation of one or more districts to an existing district in which is maintained a State-graded, semi-graded or high school. In the latter case, consolidation is effected by vote of the rural districts only, but the consent of the board of the existing school is necessary.

2. A vote upon consolidation is secured on petition of 25 per cent of the resident freeholders of the district.

3. Consolidation is voted on at one polling place for all districts petitioning, and is carried by a majority of the votes cast.



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4. The board of a consolidated school is authorized to establish schools of two or more departments, provide for the transportation of pupils, or expend a reasonable amount for room and board of pupils whose attendance at the school can more economically and conveniently be provided for by such means, locate and acquire sites of not less than two acres and erect and equip suitable buildings thereon.

5. For the purpose of receiving State Aid, schools are classified as A, B and C.

Class A must consolidate 18 sections, or an equivalent area; must have at least four departments, and give instruction in agriculture, manual training and household economics. Grant \$1,500.

Classes B and C must consolidate 12 sections or an equivalent area, the former maintaining three departments and the latter two departments. Industrial instruction must be given. The annual grants are \$1,000 and \$750 respectively. Consolidations of less than 12 sections may be formed but do not qualify for grants under this Act.

All schools must be in session at least eight months, provide transportation or its equivalent, and conform to the required standard for teachers, buildings and equipment as laid down under the Act by the Superintendent of Education.

Towards building construction a special grant is given equal to 25 per cent of the cost, the maximum amount being \$1,500. The building must be modern in arrangement, equipped with a central heating plant, fan ventilation, water pressure system and sanitary appliances. Lighting, seating, library facilities, and apparatus must be up to the standard of the best village and town schools of a corresponding grade.

Great stress is laid on the necessity of securing teachers of the best training and experience, the standard required being the same as for high and graded schools in villages and cities. The principals are considered vital factors to success, and in addition to meeting the regular professional requirements, must secure the special endorsement of the State Superintendent. To the end that they may be in sympathy with the purpose of the movement they are given a six weeks' summer course at the State Farm School each season. Besides doing regular class work in agriculture and manual training they meet with some State representative of consolidated schools for one hour each day and discuss special problems.

During the school year 1911-12 there were transported 911 children at a cost of \$21.70 per child. The average number of days of attendance is 150, making the daily cost per child about 14.5 cents. In schools not consolidated partial reports show about 1,500 transported at a cost of \$18 per child. The average number of days of attendance in these schools is 90, making the daily cost about 20 cents per child.

STATISTICS OF THIRTY CONSOLIDATED SCHOOLS IN 1911-12.

Number of separate districts combined to make 30 consolidated schools.. . . .	141	
Average area of consolidated districts.. . . .	35	miles.
Expenditure for buildings.. . . .	\$ 200,548	
Total assessed valuation.. . . .	\$ 5,483,733	
Number of children enrolled.. . . .	3,906	
Number of children transported.. . . .	932	
Total number of routes maintained.. . . .	60	
Longest distance transported.. . . .	4½	miles.
Total cost of transportation.. . . .	\$ 18,414	
Average cost of transportation per child per year.. . . .	19.75	
Average cost of schooling per child per year including transportation.. . . .	35.65	
Total cost of maintaining schools including interest on bonded debt.. . . .	\$ 139,252	
Total amount contributed by the State towards cost of maintenance.. . . .	78,900	
Total amount left to be raised by local taxation.. . . .	60,352	
Number of schools maintaining at least one year of high school work.. . . .	21	
Number of accredited State high schools.. . . .	3	
Number of accredited State graded schools.. . . .	11	
Number of pupils in high school classes.. . . .	395	



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## ASSOCIATED SCHOOLS.

This form of organization contemplates bringing about an intimate relation between a centrally located village or town school and all the small rural schools within the usual trading radius of the village or town community. It is designed to act as a compromise when consolidation is objected to as doing violence to time-honoured ideals and traditions, and as a compromise it has proved satisfactory to all concerned. Association is often the first step towards consolidation.

The striking feature of the system is that all the districts entering into the Association retain their independent organization for local purposes, including the general control of the home school. At the same time they become merged into one large district—the associated district—for all matters of common educational interest, under the general management of an associated board. The superintendent of the central school is held responsible for the work done in the association schools, and adequate supervision for all is in this way provided. The services of the industrial teachers of the central school are also extended to the rural schools, so that the latter in a manner become parts of one complete system centering in the village school.

This form of association was made possible by the Putnam Act, an act that has revolutionized school work in the public schools of the State. This law not only provides for instruction in agriculture, manual training and household economics in certain high and graded schools, but it makes provision whereby rural schools may become associated with such schools in the manner described, and thus receive the benefits of these subjects on equal terms with the village schools.

Such a system when fully developed embraces many activities, all directed from the central school. It may include, in addition to the industrial courses, a variety of short courses, an experimental farm of five or more acres, extension work, and a local training school for rural teachers. It thus makes possible a real community school, combining the resources of town and country, and enabling town-folk and country-folk to realize that they are members of one common body who must work together in harmony to mutual ends. The plan is economical, for, by avoiding duplication, competent instructors may be employed; class education is avoided; the town school is improved by the attendance of country students, and the country students are improved by mingling with town students, and, where a local training branch is maintained, a supply of rural teachers is established. The influence of such a school will be in favour of greater production, co-operation in marketing, improved roads, speedy transportation, reasonable hours of work, all tending to promote homes of thrift and contentment.

In equipment, including school farm, and laboratory facilities, in courses of study and aggressive extension work the associated and consolidated schools are almost identical, and the following example will serve to illustrate both classes of schools.

*Spring Valley School.*—Spring Valley is a village of 2,000 people, situated in a well-to-do farming community in the southeastern part of the State. A modern building equipped for agriculture, household economics and manual training was erected, enabling the school to draw annual State aid of \$2,500 under the Putnam Act. A self-supporting farm of 16 acres is maintained where all agricultural students learn the practical phases of the subject. In 1911, in response to invitation, fourteen districts voted for association. No district has since withdrawn, and others that at first declined have since requested admission.

The superintendent and the industrial teachers make regular rounds of the outlying schools, and send out lesson-guides for the industrial work. The rural teachers report regularly. Uniform text-books and equipment are supplied to the districts at a saving of cost through the office of the association. The equipment to each rural school includes a double bench and sets of tools and a complete cooking outfit.



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During five months of the school year the older rural pupils spend one afternoon each week at the central school engaged in industrial study; the work begun being continued through the week in the home school, and reported upon the succeeding week.

A three months' short course is open to young men and women over fifteen years of age. Instruction is given in English, farm arithmetic and accounts, civil government, farm sanitation, spelling, penmanship, and industrial work. A junior course is also a feature. At this, prizes are offered for various exhibits such as corn, rural school displays, etc.

The instructor in agriculture, who has charge of the school farm, acts as advisor to the entire farming community, planning buildings and silos, and giving instruction in types of live stock. Occasional night meetings are held at outlying school houses, where farm topics of all kinds are discussed.

Of the 200 students of high-school grade pursuing industrial subjects, 50 per cent were from associated rural districts. This speaks for the influence of the system in keeping rural children in the small schools and "pointing" them for the central school.

The cost of the school in 1914 was:—

Salaries, 5 teachers (2 for 4 months only) . . . . .	\$	4,140
Agriculture . . . . .		955
Home economics . . . . .		414
Manual training . . . . .		1,014
Unclassified . . . . .		803
Total . . . . .	\$	7,326

The State paid the following amounts—

Aid for 3 industrial subjects . . . . .	\$	2,500
Bonus (\$150) for each of 14 districts associated . . . . .		2,100
Total . . . . .	\$	4,600

Amount levied on associated district . . . . .	\$	2,300
Average cost to each district on average assessed valuation . . . . .		100
Less State refund of \$50 to each associated rural school . . . . .		50
Average cost to each district over and above the local expenditure . . . . .	\$	50

*Chatfield Associated Schools.*—Chatfield is a village of 1,300 people, and the association comprises 11 districts. The school is organized practically in the same way as the Spring Valley School. During the past five years the attendance has increased over 50 per cent owing to the attendance of pupils in the high school grades from the surrounding districts. The children in the small schools consider themselves as members of the central school, and after completing the eight years at the former, many become regular students at the central school or else enroll for the three months' short course.

The supervision of the associated schools, the short course work and the extension work are carried on as in the Spring Valley school. This school was instrumental in establishing a co-operative laundry, which was probably the first of its kind in the United States.

Seed corn is tested by the advanced students for the community, and the value of this work alone has, in the opinion of the superintendent, many times paid the salary of the agricultural teacher. In the same way, milk and cream are tested, farmers' clubs and institutes organized and maintained, and illustrated lecture courses conducted at the rural schools.



## COLLEGE EXTENSION IN HOME ECONOMICS.

## A MACDONALD INSTITUTE EXPERIMENT.

In Ontario, in 1915, an experiment was undertaken by the Macdonald Institute, the Home Economics department of the Ontario Agricultural College, which had for its object the extension of the instruction given in the Institute's three months' Homemaker course to girls who are unable, for various reasons, to attend the institution at Guelph.

Demonstration lectures on cooking, housekeeping, sanitation, hygiene, home-nursing and kindred subjects had for several seasons been offered by the Institute's Branch of the Ontario Department of Agriculture through the Women's Institutes. Perhaps it was the considerable measure of success attending such work that led to the conviction that many girls would avail themselves of the Macdonald Short Course if they could secure it without the necessity of leaving home. At any rate, when Miss M. U. Watson, the Macdonald Institute director, suggested to the head of the college that, as an experiment, a local branch should be organized, offering the Homemaker course, the proposal was at once concurred in.

An agreement was then entered into with the Women's Institute at Ayr to establish such a school. The Macdonald authorities undertook to provide a first-class teacher, a room and the equipment necessary, charging the regular fee of \$15 per pupil. The Women's Institute, on its part, undertook to guarantee a class of not less than twenty.

An article by Miss Watson, which appeared in the "Farmer's Advocate," outlined the details. A circular was sent to every family in the neighbourhood and an energetic canvass made by the Women's Institute. The Public School Board offered a vacant school-room. A cheap but practicable domestic water-system was installed including a cistern, boiler and sink, all properly connected with roof-pipes, stove and waste receptacle. All the equipment necessary for classes in cooking, sewing and laundry work was assembled. This, while not elaborate, included every convenience that a well-appointed home should possess. A few dollars spent in repairs, whitewash, scrubbing and curtains made the place clean and attractive. The tables were on trestles, and the cupboards consisted of packing-cases, but everything essential was there.

The Macdonald graduate selected to take charge of the school, Miss Theodora Jobb, who combined with first-class professional standing and teaching experience a real enthusiasm for the work, qualifications which contributed greatly to the success of the undertaking.

The class opened towards the end of September with 22 students, seventeen of whom were farmers' daughters who drove to town from a distance of one to six miles on five days a week for twelve weeks.

The instruction given dealt with plain cooking, laundry work, care of the house, foods, sanitation, home-nursing, English, and optional work either in millinery and undergarments or shirt waists and embroidery. During the course a number of girls made clothing equal in value to their tuition fee.

The pupils were regarded as regular college students and were entitled at the end of the course to write on examinations which would admit them to the second term's work of the Macdonald Homemaker Course. A local friend of the Women's Institute offered a scholarship of \$75 to be competed for.

Not only in practical but in inspirational value was the course a great success. Already other places are sending in requests for similar schools, and the indications are that the experiment at Ayr may lead to many such schools being established, so that in time every girl may have an opportunity of securing special instruction in the things that make for efficiency in the conduct of the home.

NOTE.—See special articles in "Farmer's Advocate," London, Ont., December 23, 1915, and "Farmer's Magazine," Toronto, December issue.



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## APPENDIX C.

## FARM DEMONSTRATION WORK.

"The Farmers' Co-operative Demonstration Work has clearly established the principle of demonstration through co-operation with the farmer as a means of disseminating agricultural knowledge. A great many very able men have advocated the establishment of what they have termed "demonstration farms," which are entirely different from the method used by the department in this work. These single model farms or experiment stations doubtless attract a great deal of attention and serve to disseminate considerable useful and valuable information to the farmer, but it has been clearly shown by this work that the carrying on of 25 to 150 demonstration farms in a county in co-operation with farmers will much more rapidly place the necessary information in the possession of the man who needs it than will the maintenance of one model farm. The doing of the work by the farmer instructed is a means of driving home the lesson in a much more emphatic and lasting manner than the occasional observation of a farm located at a distance from his home." (Year Book U.S. Department of Agriculture, 1911.)

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More than a million dollars annually is expended for demonstration work in the South. Of this amount \$375,000 is furnished by the Government, the balance coming chiefly from county appropriations, assisted by a grant of \$250,000 from the General Education Board, generally known as the Rockefeller Foundation. There are 940 agents engaged in the work, made up as follows: Government 483, General Education Board 254, Girls' Canning and Poultry Club Agents, (also Education Board) 203. In the northern and western states 190 county agents were employed in 180 counties in 1914. Sixty of these are supported by state and local funds. Applications from 298 additional counties were turned down for lack of funds.

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"The biggest factor in 1915 will be the County Agent—the practically scientific and scientifically practical man who takes science to the farm. With the Lever Bill in effect, there will be more of him than ever."—The Banker-Farmer.

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"Books and class-room instruction, and agricultural extension work are all right in their way, especially for the young. But the real aid to immediate advancement in farm work is to show the farmer just what he can do with his own hands on his own land, and just how to do it. Only when the work on each farm is intelligently adapted to all the conditions to which that farm is subject can the best results be reached."—James J. Hill.

## THE FARMER DEMONSTRATOR.

## A MEANS OF TEACHING THE FARMER TO HELP HIMSELF.

It is quite generally recognized by those who are working for the advancement of agriculture that the work of scientists, investigators and experimenters has made available a great body of knowledge applicable and helpful to husbandry. It is not overstating the case to say that if the knowledge actually in existence could be generally applied to farming operations in this country, it would place the industry on a basis of far greater profit, and readjust country life in all its aspects, placing it on a higher plane of comfort, culture, influence and power.

This fund of knowledge is being added to year by year; but it cannot be delivered to the people by written message in such a way that they will accept and adopt it.



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We may investigate, and still further investigate; we may tabulate results, compile reports, and scatter them over the land, but the fact remains that they make but little impression on agriculture at large. This mode of instructing the farmer has been proceeding for years and has failed to bring about any general improvement. Only by personal appeal and ocular demonstration can the result that is sought be accomplished. Model Farms and Demonstration or Experiment Stations, while they are a step forward, do not fully meet requirements. They attract a good deal of attention locally, give useful and valuable information, but, like the printing and distributing of reports and bulletins, they do not reach the man who most needs them, and are too slow in accomplishing a general improvement. The results are not adequate to the expenditure of money and effort. A better means of reaching the backward farmer is needed. Has such a method been found? The co-operative demonstration work carried on in the South by the Bureau of Plant Industry of the United States Department of Agriculture supplies the answer.

This movement, which has assumed large proportions in the Southern States, had for its primary object the giving of immediate relief to the sections suffering from the ravages of the cotton boll weevil. The situation, when taken hold of by the late Dr. Seaman A. Knapp, of Texas, in 1904, was, to quote from the Year Book of the United States Department of Agriculture, "a very gloomy one. Cotton was the sole cash crop and was generally raised on what is known as the advance system." The small cotton planter obtained credit from the banker or merchant for the provisions and supplies necessary to maintain him and his family until his cotton was marketed. To do this, he gave a mortgage or lien on the crop, and often upon his team and tools. "At the end of the year the merchant or banker took the crop, sold it, paid the indebtedness for advances, and returned the balance, if any, to the farmer." Then the weevil appeared in state after state and destroyed the cotton crop. "Merchants and bankers refused to make advances, and the farmer found himself without credit, without food and without money. The result of this condition was a financial and agricultural panic. Labour left the country, farms were abandoned, stores closed, and disaster was apparent everywhere."

A system that would promptly and effectually meet this condition and relieve it was absolutely necessary. The department had investigated the boll weevil and was prepared to show the farmer how to produce cotton in spite of it. But this was not enough. The problem was twofold. The one-crop system was at the root of the trouble. The one crop system, whether cotton, wheat, tobacco, has proved a failure as a permanent system of farming. This is particularly true where the economic system tends to throw the crop on the market at a particular period of the year. Not only was this the case in this instance, but it had given rise to the credit system, under which all influences combine to increase the acreage of the one cash-crop, so detrimental to soil fertility.

To combat the weevil, a diversified system of farming was necessary. The cotton planter must be taught to rotate his crops; to grow corn, hay and forage for a profitable live stock industry, and with the aid of legumes and live stock to build up the fertility of his soil, while still growing cotton as a cash crop, but on a smaller acreage with a larger production per acre, and without having his financial condition dependent on its fluctuating price. The farmer must also be shown how to produce a great portion of the food necessary for his family. That was the problem; how was it met?

The system adopted to quickly carry the knowledge at the disposal of the departments to the individual farmer was as follows:—Competent local agents were employed to demonstrate to the farmer on his own land and with his own active co-operation the methods to be followed. Instead of having a single demonstration farm in a county, 25 to 150 demonstrations were carried on under the guidance of the department by a like number of farmers.



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The important points in the system were:—

(1) Personal contact between farmer and instructor; (2) participation of the farmer in the demonstration; (3) the certainty of success, under normal conditions, of the methods advocated.

The local agent was required to be competent; not only must he have a knowledge of agriculture, but the experience to enable him to see the practical as well as the scientific side of the problems, and in addition to be a man of character, capable of securing and holding the confidence of the farmer.

The result was immediate and reassuring. The farmer-demonstrator raised cotton in spite of the weevil; at the same time he raised much more corn under the instruction of the demonstrator than he had ever been able to raise before.

“Seven years have brought a wonderful growth and many striking results. From a few agents in 1904, upwards of 600 agents were employed in 1911. From the instruction of a few farmers in Eastern Texas, the movement has extended to the instruction of practically a hundred thousand farmers, and from one state to thirteen states.”

The work accomplished in arousing a general interest in the live-stock industry is one of the most important results of the movement. “Thousands of demonstrations in the raising of corn and forage crops especially adapted to the feeding of hogs and cattle and the introduction of permanent pastures for grazing, have opened the eyes of the farmers generally to the possibilities of the South as a live-stock country.”

The work first influenced the individual, next the community, and finally the public opinion of the state. The third period of development has already been reached. Individuals, associations of business men, farmers’ organizations and county governments are voluntarily contributing to assist the department in extending the work. For every dollar appropriated by Congress for its support, an equivalent amount is devoted to it from some other source.

Dr. Knapp once said that “the demonstration method of reaching and influencing the men on the farms is destined ultimately to be adopted by most civilized nations as a part of a great system of rural education.”

## OPERATION OF THE SMITH-LEVER ACT IN THE STATE OF OKLAHOMA.

The year 1914 marked the beginning of the operation of the Smith-Lever Act in the United States. Under this Act the Federal Government grants to the State Agricultural Colleges an annually increased sum to be devoted to Extension Work in Agriculture and Home Economics. Each state receives the sum of \$10,000 annually as an unconditional gift. In addition to this, a sum will be distributed each year among the various States based on the ratio that their rural population bears to the total rural population of the United States. This further grant is made conditional on a like sum being appropriated by the State Legislature in behalf of Agricultural Extension. It is probable that, within a few years, \$8,000,000 will be spent annually by the various States for the purpose indicated, aided by the Federal Government.

The text of the Act clearly indicates the nature and scope of the work when it says that it “shall consist of the giving of instruction and practical demonstrations in Agriculture and Home Economics through field demonstrations and otherwise” to persons who are not regular students at the State Agricultural College.

So far as agriculture is concerned the Act recognizes and is based upon the fact that right methods of farming can be ascertained only through scientific investigations, such as the farmer is not able to conduct for himself, but which are being conducted for his benefit by the agricultural colleges and allied institutions, and by the Federal authorities. These institutions are financed largely by Federal money. The Smith-



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Lever Act grants the further aid necessary to enable them to carry to the farmer on his farm a demonstration of the methods and principles that have been proved to be most advantageous. In this way knowledge will be extended beyond the college to the man on the farm and the woman in the farm home, and to their sons and daughters who do not, or cannot, take advantage of the instruction given within the walls of the institution.

The report of the Oklahoma State Board of Agriculture of 1915 outlines the method whereby it is proposed to carry on the College Extension work in that State in compliance within the requirements of the Act.

As the work contemplated by the Act is in many respects identical with that being performed under the Agricultural Instruction Act, it is interesting and instructive to consider the plans being laid down for its furtherance. Before doing so, some consideration should be given to the system of agricultural education now being pursued and the equipment at the disposal of the State for this purpose.

In Oklahoma the system embraces the State Agricultural and Mechanical College and its related departments. This institution is the technical head of agricultural and industrial education. The Agricultural and Mechanical College is financed largely from Federal grants, there is no charge for tuition, and it is co-educational. The experiment Station attached to the college conducts experimental and original research work, and is financed mainly by the Hatch and Adams funds.

The Extension division of the institution is designed to instruct school teachers, children and citizens throughout the State in the best agricultural practice, in the industries and sciences and in home economics and home building. For students of the college who wish to qualify as Extension Workers and County Agents, a special five months' course is provided, embracing farm economics and marketing, agricultural engineering, agricultural chemistry, agronomy, animal husbandry, and other minor subjects having specific application to the work of Extension Specialists. After taking this course, they are required to act as Assistant County Agents during the summer months, returning in October to complete the two years' course. Students must have had four years' practical experience on a farm and be not less than 21 years of age.

The State Schools of Agriculture, six in number, are distributed over the State, and are equivalent to well conducted high schools. Their graduates are qualified to enter the Agricultural College. These schools are fully equipped and liberally maintained for the purpose of giving to boys a balanced education in all the practical duties of farm life, manual training being one of the important branches. Girls are instructed in the various phases of household economics and fitted to be wives of farmers. Farm demonstration work in all its important branches is fundamental. The school farms range in size from 80 to 160 acres.

The president of one of the schools speaks thus of the scope of the work: "The schools demonstrate for students and farmers cultural methods and the different kinds of farm crops, fruits and garden products; serve as testing stations; give demonstrations in road-making and farm management, and afford at a reasonable cost the best kind of educational training for boys and girls, turning back to the farms and into the farm homes young men and young women specially trained for the work that devolves upon farmers and their wives."

In addition to the schools of agriculture, the Legislature prescribes the teaching of agriculture and domestic science in the common schools.

The plans of the State Board of Agriculture for carrying on the work of instruction and demonstration in agriculture and home economics to be financed from Federal funds are systematic and clear cut. It was decided in the first place that the county agent should be the foundation of the extension work; that in each county there should be an agent working the year round with a woman agent assistant employed for at least nine months each year, the latter being known as County Home Economics Agents. The agents are representatives of the State Agricultural College and of the



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United States Department of Agriculture. Through them will be carried on the various lines of extension work, and to their assistance will come, as occasion requires, the experts of both State and Federal Governments.

It is worthy of note that under the system that is being followed, the farmers are no longer required to assemble to receive instruction. Instead, the agents go direct to the farms, and are in daily personal contact with the farmers and their families. Every local problem is given personal attention, and in solving such problems the resources of the College and Experiment Station are drawn upon to the fullest extent. The women agents are no less busily employed in household economics. The extension division has in the field a woman who devotes her entire time to rural sanitation, showing how to make more healthful the surroundings of the rural home.

This consolidation of the Agricultural Extension work is under the supervision of an official known as the director of the extension division, with a corps of assistants.

At intervals a movable school of instruction, to which specialists from the staff of the college and farm are attached, is held in different counties. For the boys and girls of the State, the extension division organizes and conducts demonstration clubs—corn, cotton and pig clubs for boys, canning, poultry and better bread clubs for girls. The club members are encouraged to exhibit at the fall fairs. Winners are given a free short course.

A large portion of this grant under the Smith-Lever Act is being devoted to meeting the needs of the women and girls on the farms, through women's auxiliaries and women's clubs. A woman has charge of the work under the supervision of the director. Home industries, as a source of revenue, are stimulated. Labour-saving devices, poultry-raising and dairying are demonstrated. Each girl member of a canning club is required to cultivate a garden of one-tenth of an acre, the main purpose being to produce a home food supply.

In Oklahoma the man who is doing the actual fighting in the trenches is the county agent, in conjunction with the woman assistant agent. The activities of the county agent directly affect every business enterprise in the State. Schools and churches flourish or decline as the people are thrifty or impoverished; the deposits of banks rise or fall as the farmers win or lose, merchants face profit or loss as agriculture expands or contracts, and the surplus products of the state are swelled or diminished as the farmer hits or misses his aim, thus directly affecting the earnings of transportation companies.

"There was a time," says the report, "when both the state and the federal government were maintaining separate departments for the demonstration of agricultural problems, each duplicating the other's work. Under the provision of the Smith-Lever Act, both are harmoniously united for the greatest possible service to agricultural life. Agricultural education of the right kind is the very foundation of the state's commonwealth, and should receive the intelligent support and encouragement of every citizen."

(NOTE.—The Director of the Agricultural Experiment Station of Oklahoma is Mr. W. L. Carlyle, B.S.A., a graduate of the Ontario Agricultural College, and a native of the province of Ontario. Mr. Sidney Carlyle, superintendent of Demonstration Farms in Alberta, is a brother.)



## COUNTY AGENT WORK IN THE NORTH AND WEST.

(St. Louis Conference of State Leaders in County Agent Work, November 16-19, 1915. C. B. Smith.)

GENTLEMEN,—The purpose of these joint morning sessions, as I understood the matter, is to acquaint each other with the point of view governing our respective lines of work. The thought is that from this exchange of ideas and outlines of plans, worked out under different conditions, each may get suggestions of value in handling his own work, or at least, have a clearer understanding of the other man's point of view. In presenting to you the county agent work of the North and West I shall interpret my point of view in regard to that work as it has developed from the outset, and present to you, as nearly as I can interpret the work in many States, the thought of the leaders in the work at this time.

Organized co-operative county agent work in the North originated in this manner: In the fall of 1910 the Binghampton Chamber of Commerce, of Binghampton, Broome County, New York, conceived the idea that the farming surrounding that town was inadequate and poorly rewarded; land values were going down instead of up; the farmers didn't seem to have much money to spend; the city brought in much of its produce from outside sources. The Chamber of Commerce interested the railroad running through the town, and, together, they decided to put in a model farm that would be an example and inspiration to all the farmers of the vicinity. The assistance and co-operation of the State Agricultural College and the Office of Farm Management of the United States Department of Agriculture were sought for the purpose of selecting a farm and outlining the work that should be undertaken.

Professor W. J. Spillman, of the office of Farm Management, and some of his men, went up to look the situation over. Dean Bailey, of Cornell, and some of the professors of the college met them to look over and counsel on the matter.

Now this interesting situation developed: the U.S. Department of Agriculture had never done any special work in Broome County, New York, and really didn't know what was the matter with agriculture in that county. The State College of Agriculture had never made a study of the county, and really didn't know what was needed there.

The farmers were growing some corn: Should they be encouraged to grow more corn? They were growing some hay: Should they be taught how to double their yields? They were keeping dairy cows: Was dairying a good thing to urge on the farmers, with yields of crops and prices of milk as they were? The college didn't know; the Office of Farm Management didn't know.

The college and office agreed, however, that they did not want to father a model farm. They had learned that farmers do not flock to see model farms, and are not impressed with them when conducted by the State or Government. That much had been proved. The work in the South had demonstrated that the way to teach the farmer is to let the farmer do the work with his own hands, on his own farm.

But what particular thing should the college and department urge the farmers to do in Broome County, with their own hands, on their own farms? The college didn't know; the department didn't know. They finally agreed that the best thing to do under the circumstances was to engage a man competent to study the situation and, based on the results of his studies, take up such lines of agricultural importance as would seem best to meet the immediate situation and the needs of the farmers.

The college, having no funds for the co-operation, agreed to lend its moral support to it and find a man for the work. The Office of Farm Management at Washington, the Binghampton Chamber of Commerce, and the Delaware, Lackawanna and Western Railroad, jointly financed the work. In the project agreement drawn up the super-



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vision of the work was left to the college and the Office of Farm Management, jointly. The college practically turned the matter over to the office of farm management. The office, without experience, practically left the matter to be worked out by the agent himself.

The agent went to work March 11, 1911, and this is the beginning of organized co-operative county agent work in the North and West.\*

I desire to get clearly before you now the difference in viewpoint, as I see it, of the county agent work of the North from that of the South, at the inauguration of the work, and some of the reasons for that viewpoint, also such modifications as may have developed as a result of experience.

The agent of the South, when put to work, had a definite programme mapped out for him. The staple crop of the region, cotton, was threatened with the boll weevil; it must be saved, or, in lieu thereof, other crops substituted, of which the farmers had had little experience in growing. The farmers needed to be shown. The agent's job was mapped out for him; he was closely supervised.

On the other hand, the agriculture of the North was much more diversified. The farmers knew how to grow, and were familiar with many different kinds of crops, crop rotations, and live stock. No dire calamity threatened the industry or any large part of it. Inadequate returns were being secured by some farmers, and in some instances this might be quite widespread, but in practically every community examples could be found of very thrifty farmers and very satisfying systems of farming. In the North the immediate matter did not seem to be so much one of the agent's doing specific demonstration work, as it did in pointing out the good examples of farming already in existence, and getting these good practices established among all farmers.

To amplify this thought a little, it may be stated that in every county of the corn belt, for example, probably a hundred farmers can be found who can grow and are growing as good corn as can be grown probably by any agent either the State College or the Department of Agriculture has in its employ. The same is true, in a broad way, of wheat, potatoes, hay, the handling of hogs, dairy cows, etc. The farms of these men are already successful demonstration farms, developed there in the community, and immediately available for demonstration purposes.

The more the matter was studied, and the more facts regarding the agriculture of any particular locality were ascertained, the more certain became this fundamental truth of northern and western agriculture and which now forms the basis of much of our county agent work; namely: Every community where agriculture has been going on for any length of time has worked out, by a few individuals within it, good systems of farming. These systems are good enough so that if the average returns of the whole number could approximate what 20 per cent of the farms are actually doing, the county or community would be unusually prosperous.

The big work of the county agent of most sections of the north and west would therefore seem to be to help the community discover itself; to show the community what the community itself, has already accomplished; to hold fast to the things that have proved good; to point out defects when found; to introduce new methods, new crops, new industries, if needed, but to begin with what the community has already worked out itself.

This plan, you will see, implies that the county agent has the ability to analyze conditions, to find what factors are making for the building up of agriculture in the

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\* Some unorganized County Agent work was begun in Bedford County, Penna., by A. B. Ross at Shellsburg about the year 1906. On March 1, 1910, Mr. Ross was appointed as agent of the Office of Farm Management, but without local or State financial co-operation. At that time Mr. Ross was carrying on demonstration and advisory work with about 200 farmers in two or three counties.

In the Province of Ontario, District Representatives were first appointed in 1907. See Report of Agricultural Instruction Act, 1913-14.



community. His guess is not sufficient. A constructive programme of betterment depends upon a knowledge of the facts as they are found right there.

Shortly after the county agent work started in Broome County, New York, a large commercial concern, benevolently inclined, learned of the work. The idea of business men and Chambers of Commerce taking an active interest in agriculture appealed to it, and \$100,000 was set aside to aid in that work, with the hint that a million dollars would be available, if necessary. This was to be used at the rate of \$1,000 per county, for counties that would organize in support of the work for two years. The money was expended through the Council of Grain Exchanges of Chicago, with an energetic agent in charge of it. A wide and active campaign followed for county agent work. It was comparatively easy to interest Chambers of Commerce, bankers and business men in the work. The idea of being of direct service to the farmer appealed to their imagination. Through this work they saw an opportunity to get into more harmonious relations with farmers. Besides, in building up the agriculture surrounding their town, they felt that business would be benefited almost in direct proportion as the farmers had increased funds to spend. The immediate effect of this was that Chambers of Commerce, bankers and commercial men in many sections of the north and west largely led in the organization of the work.

It was practically a year and a half after the first county agent was located in Broome County, New York, before the Office of Farm Management had funds for expanding the work. At that time the states had practically no money for this purpose, the Office of Farm Management had approximately \$65,000, and the Council of Grain Exchanges had \$100,000. It was our task to keep in sight of the rapid campaign that followed for county agent work throughout the entire north and west, to effect co-operative relations with each county that organized, whether we had any money to put into it or not, and to see that the Agricultural Colleges were systematically brought into the co-operation and assumed joint responsibility with the department for the supervision of the work.

It was a new work. Neither the Office of Farm Management, nor the colleges, had had any experience in organizing such work. It did not appear to us at that time practicable to organize the work on the plan of the South. More local control, less direct supervision on the part of the department, greater freedom of action on the part of the agent in shaping up his work, all seemed essential.

With the funds of the Council of Grain Exchanges, as well as those contributed by bankers and business men, given directly to the county organizations, and with the work largely fathered by business interests, the work savoured decidedly of city influences.

The first intimation that something might be wrong in this plan came from a county in Michigan. The Board of Supervisors of the county had been asked to contribute county funds in support of the agent. Instead of doing so they presented the matter to the people for a vote. The farmers voted decisively against the county agent plan. This was a shock. A like result followed in a few counties elsewhere over the country. About this time we learned that the farmers in Broome County, New York, were interested in seeing how the business men were going to teach them farming, and their attitude was typical of farmers in some other counties. In other words, when we had time to take stock of what was really going on, we found that the farmers regarded the county agent movement largely as an outside movement, something not their own—a business man's or city proposition, something for which they were being assessed by county tax but for which they did not ask, nor were they in any large way consulted.

Gradually it dawned upon all that the matter had been gone at more or less backward, that instead of the business men leading, with the farmer more or less of a silent partner, the farmer himself should lead, with the commercial interests the silent partner.



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This idea has seemed to be sound. Today practically no county is organized anywhere in the north and west until after the work has been fully explained to the farmers, and they have signified their interest in the work of organizing for it and asking for the co-operation of the State and Department in the employment of an agent. This puts the farmers squarely behind the movement. It makes it their work. Business men are invited to take part in the work, but the farmers hold the offices and are responsible for the organization and policies.

Before I leave this phase of the subject, however, I desire to add this acknowledgment. We largely owe to business interests the rapid progress of the county agent movement in the north and west. Through their aggressiveness the work was initiated on a large scale and forced upon the attention of the Agricultural Colleges and Congress. But for their interest in the work, the Smith-Lever Act, I am convinced, would have been greatly delayed in coming, and notwithstanding the fact that funds are now practically assured for an agent in every county of the north and west, we still need the stimulating, helpful interests of business men in the work, and it would be a mistake not to make use of this force, so generous in its assistance. We need their co-operation—but the farmers must retain local leadership and direction of the work.

The county agent idea has now been accepted by every one of the Northern and Western States as an essential part of any effective extension system. The movement has not developed on a uniform plan in the different states. The Office of Farm Management of the Department, while having a fairly well formulated plan of its own for the work, nevertheless had no large amount of money to put into it. In every case the work was co-operative, the co-operating parties usually contributing one-half to three-fourths of the funds, and in approximately 30 per cent of cases the local county organizations contributing all the funds. The kind of work that should be undertaken in any county, therefore, and the way in which the work should be conducted, was more or less of a compromise.

A fundamental idea of the Office of Farm Management with reference to the work and what that office tried to inject into the work in every State was this: First, find out what the farmers need. Second, give the farmers the kind of assistance that will best meet their need; for it must be remembered that of all the States of the North and West there was just one (Illinois) where the State Agricultural College had worked out a clear-cut definite scheme for improving the agriculture of the State, and was ready to stand behind the plan in any particular county. In that State each Agent started out with "Lime, Raw Rock Phosphate, and Clover," as a slogan. In practically every other State the problems of each particular county were in a large measure not worked out, either by the State Agricultural College or by the Department at Washington, and that is largely the situation today, and particularly is this true of the west, with its problems of irrigation, drainage, alkali, dry farming, markets, and many other things, where many of the colleges as yet are unable to offer any clear cut programme for county wide agricultural improvement.

Putting upon the county agent, therefore, the burden of diagnosing conditions, of organizing his work to meet those conditions, and of doing such forms of extension work from the outset as would meet the expectations of the various co-operating parties employing him, called for men of unusual training and ability. From the outset, therefore, practically only men trained at an agricultural college and familiar with practical agriculture from childhood, with a record of successful work behind them, have been employed as county agents. The cost of a county agent in the north and west for the past year has averaged approximately \$2,900 per county for salary and expenses.

With the starting of the work in many States widely scattered and by many agencies, and with the administration of the work, both on the part of the States and the National government, necessarily entrusted to men largely drawn from the research forces of these institutions, and without experience, the wonder is that the movement succeeded. But it has succeeded and I attribute this success largely to the adaptation of



the work to the needs of each community—as locally determined, and to the quality of the men employed as agents. I don't suppose a stronger group of agricultural men has ever been assembled in the United States than this group of county agents, who, with consciences quickened and the spirit of the pioneer within them awakened, have felt their responsibility in the work and have met it.

Through it all the aim of the Washington Office has been to keep in touch with the work in every State, insofar as its limited force would permit, and through a system of annual conferences such as this, at which the leaders of the work in each are assembled to sift out the essentials, as they appear from year to year, and get them gradually adopted, insofar as they may be applicable, in each state.

With this setting forth of the origin and development of the work, we are now ready to take stock and see how far we have advanced. As I am able to sense the matter the best thought on the county agent work of the north and west at the present time may be summed up as follows:—

1. The county agent of the north and west is essentially an organizer and administrator of all the extension forces operating within the county for the purpose of increasing efficiency and profitableness of farming.

2. The best county agent work in the north and west to-day is being done in those counties where there is a county-wide organization of farmers behind the work, with numerous subsidiary branches throughout the county.

3. The county should be well organized and the work of the agent clearly explained, and a large body of farmers thoroughly in sympathy with the work, before an agent is placed in a county. The idea is that farmers are not being shown; they are associating together and teaching themselves aided by paid leadership.

4. A county-wide organization is of little value unless the agent and farmers use the organization.

5. Farmers learn as they do for themselves; not as they have things done for them.

6. The programme of work of the county agent therefore should be formulated in conference with the farmers themselves.

7. The work of the county agent should be definitely drawn up on a project basis, the farmers, the agent, and the college all agreeing on the programme.

8. The county agent is the direct representative of the agricultural college and the United States Department of Agriculture, as well as a representative of the county organization. Through him, or in co-operation with him, all State and Government extension work should be carried on within the county.

9. The agent's big field of work is that of a demonstrator, but he deals with individuals in this work only as they represent groups. Field meetings on the demonstration plots are an essential part of practically all demonstration work.

10. Demonstrations are essentially of two kinds:—

- (1) The kind the agent finds already worked out by successful farmers when he takes up work in the county. Upon these hinge practically all of his other demonstration work. These give the county agent the clue as to what is right in agriculture in that community.

- (2) The kind the agent places himself and either directly or indirectly supervises. These give the farmers confidence in the agent's practical knowledge of agriculture, and constitute centres of community meetings and influence.

11. Upon taking up work in a county the agent needs two programmes: One to meet the immediate expectations of those co-operating in his employment, and which shall inspire confidence in farmers as to his practical knowledge; the other a permanent programme designed to effect fundamental improvements of the agriculture of a county.



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12. The best means yet found in the north for assisting the county agent in formulating his permanent programme of work within the county is through farm management demonstrations.

Since this phase of the demonstration work in the north and west is of comparatively recent origin, I may add a word of explanation in regard to it.

At the inception of the county agent work in the north, the Office of Farm Management at Washington planned on having the agent, immediately upon taking up work in a county, make a diagnosis of local agricultural conditions, based upon which he would work out a constructive programme of agricultural betterment.

In this plan an important matter was overlooked. Practically no one had been trained in, or knew how to do, that kind of work. This, together with the necessity of adopting a compromise programme because of the financial and other co-operative relations involved, made it impracticable to carry out that programme, except in a few cases. The results obtained in those few cases, however, were most illuminating, and based upon the results secured by one agent, Mr. G. P. Scoville, of Chemung County, New York, the consent of the Secretary of Agriculture was secured for organizing a special force of men to bring to county agents, generally, first, the significance of the agents having a knowledge of the facts of local agriculture as a basis for extension propaganda within the county, and, second, how accurately to diagnose local or individual conditions, and to do this through a concrete demonstration with a small group of farmers within the county.

This supplement to county agent work in the north is yet very new, though considerable importance is now attached to it. It has been in operation only a year and a half, during which time it has been necessary to assemble and train a special group of men, now numbering twenty-five. In this time, however, 140 county agents have been assisted and instructed on how to diagnose conditions on the individual farm or in a community and, in co-operation with them, over 10,000 demonstrations with individual farmers carried on in groups of about 70 farmers each, located in about 140 counties in 22 states.

In this work, instead of putting emphasis on the yield of crops, the emphasis is put on a larger net income at the end of the year. Instead of starting a man off at high speed on some particular phase of his farming, like 'corn-growing, it emphasizes the right organization of the farm first, with a speeding up on such details as the farm diagnosis shows need speeding up. Instead of asking a man to undertake a piece of farm work blindly, he is given a vision of his whole farm, with the relation of its parts, and emphasis placed on what must be done fundamentally if success is attained.

I shall not go further into detail with regard to this at this time. The leaders from the north and west are all familiar with the work, and if the matter is of any interest to the south or others I shall be glad to explain the work further, either individually or collectively.

I may draw your attention, however, to this chart, which shows, in a skeleton way, the work done in 49 areas in 17 states, since it brings out strikingly that interesting fact in northern and western agriculture, that every community has worked out good systems of farming, which constitute immediate demonstration material for a county agent, if he knows how to find it. This chart shows that in these demonstration areas 20 per cent of the farmers are making approximately \$1,000 a year more than the average farmer of the same county.

Is the county agent work in the north and west making good? We feel that it is. On July 1, 1912, there were three county agents in the whole north and west. A year later there were 140; on July 1, 1914, there were 230, and now there are 383. Out of this number starting work in 32 states, under all kinds of co-operative organizations, with all kinds of supervision and no supervision, and under all kinds of conditions, less than 5 per cent of counties started have failed to maintain the work. With so



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many co-operating parties usually involved in the work of each county, and with the purpose of the work only partially understood, this is a much smaller percentage than we can hope to maintain. Most of the cases of failure thus far have come from using unqualified men or because the purpose of the work was not well enough understood by the farmers to secure their support.

The character of the work the agents have been doing may be briefly mentioned. During the year ending June 30 last, 260 agents carried on a total of 35,000 demonstrations, 30,000 of which were in connection with crops and 5,000 in connection with livestock and farm organization. During the calendar year 1914 covered by the annual report of the agents, 261 agents reported visiting 76,291 farms in connection with their work. This is less than 300 farmers per agent and is significant of the small number of men who can be reached individually by the agent. The number of farmers who visited the agents or the Farm Bureau office as a place of consultation and conference is an indication of a wholesome tendency towards making the Farm Bureau a clearing-house for agricultural information. Eighty-seven thousand and ninety such calls were made and 161,320 telephone calls on the agent in regard to some farm problem. The agents wrote 274,956 letters and addressed meetings with a total attendance of 419,430; also 4,613 schools were assisted in developing agricultural instruction.

In relation to farm and farmstead: Silo construction, particularly in the middle west, has been greatly stimulated. One hundred and forty-six agents have been instrumental in securing the erection of 4,017 silos; 731 drainage and 129 irrigation systems have been planned. Along the lines of home conveniences, 73 agents report 147 water supply systems as being introduced through their suggestion.

In relation to crops: One hundred and nineteen agents report 596,194 acres of corn planted with tested seed. Sixty agents who conducted tests report an average increased yield per acre of 9.3 bushels on farms following agents' advice. The grain smuts, particularly the oats smut, have been a serious problem in many counties of the middle west. Ninety-nine agents report 7,040 acres of oats grown in demonstration fields, illustrating the benefits of treating seed with formaldehyde. In fields where careful tests were made, the increased yield as a result of treating seed in this manner was from 5 to 12 bushels per acre, at a cost of from two to three cents per acre for the treatment. Seventy-six agents report 277,780 acres of oats as being grown under their direction. Forty-eight agents report an average increased yield per acre of 10.6 bushels. One hundred and five agents report 265,450 acres of wheat grown under their advice. An average increased yield of 7 bushels per acre reported by 54 agents is the result of definite tests. Ninety-one agents gave advice in regard to the planting of 17,609 acres of potatoes. On demonstration plots where yields were determined, 47 agents report an increased yield of 26.6 bushels per acre. One hundred and ninety-four agents influenced the sowing of 85,257 acres of alfalfa. For the most part this was in connection with introducing alfalfa in the localities where it had not previously been commonly grown. The value of soil inoculation in connection with alfalfa seedling was demonstrated on 7,549 farms.

Work done in relation to live stock: Work done in the introduction of pure-bred sires and their transfer from one community to another has been an important phase of live stock work. One thousand nine hundred and forty-one registered sires were secured for farmers and 423 transferred from one community to another; 3,121 dairy cows were purchased by farmers on advice of county agents; 2,322 animals were tested for tuberculosis, and 291,905 hogs were vaccinated for hog cholera. In connection with the hog cholera control work, several of the agents have thoroughly organized their counties by school districts into anti-hog cholera clubs. Every outbreak of the disease is promptly reported to the county agent's office. The organization of these clubs has resulted in a stricter enforcement of state sanitary laws and made the isolation and control of the disease a much easier matter.



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Work done in relation to fertilizers and fertility: One thousand nine hundred and eighty-six farms were instructed in the home mixing of fertilizers; 11,552 farmers conducted demonstrations in regard to the use of lime; 287 local sources of lime were developed. The use of cover crops and the value of legumes in soil improvement was given much attention.

Work done in relation to farm business: Two thousand and seventeen farmers were helped to keep farm accounts and 3,437 farm analyses made. Seventy-two farmers' exchanges were organized doing a business of \$93,846. These same exchanges supplied 2,333 farmers with labour. The total business done by purchasing and marketing associations organized by the agents amount to \$1,236,023, resulting in an approximate saving to the farmer of \$96,400. The above are illustrative of a few of the more important activities of the county agents. Each agent makes weekly, annual and semi-annual reports to this office covering every phase of his work. With the development of the written project it will be possible to give more specifically the result of demonstration work.

Will this county agent work be permanent? We think so. Funds for the work under the provisions of the Smith-Lever Act are available and the colleges and Department recognize the system as the best means yet devised for carrying their message to the last man on the farm. With these two parties practically of one mind as regards the county agent work and system and with the farmers behind the movement, there would seem to be no hitch in the plan, provided, always, that the quality of men and work that is now in effect is maintained or improved.



## APPENDIX D.

## WOMEN'S WORK.

## THE CASE OF THE WOMAN ON THE FARM.

The Secretary of Agriculture of the United States sent out recently a circular letter to the farm women asking for suggestions as to the ways in which the department could work for their benefit. The replies received during the year bring into prominence the difficulties and disadvantages of farm domestic life and emphasize the needs of farm women.

Perhaps the most striking note is the demand for fuller knowledge—knowledge that will enable the women to make their homes healthier, their lives brighter. While it is clear that farm women want to learn, that they want to improve their homes, it is equally clear and frankly admitted that to-day they don't know how. Those who do know want their husbands to be told also.

The demand is strong that practical information be brought to them through the medium of ocular demonstrations, either in their own or their neighbours' homes, through lectures, through bulletins, educational moving-pictures, through anything and everything, in short, that will bring home to the people the possibility of better living.

The farm woman looks not only for help in her work, but for aid in finding pleasure and diversion outside of her work. In this regard it is not so much material assistance, such as libraries, instructors and meeting places, that are needed, but leadership in organizing to obtain for themselves these and other aids. In the organization of women's clubs and co-operative societies, government agents should it is claimed, be the leaders.

Overwork is the common and widespread complaint. The farm woman can get no help for herself, and the help her husband has she must care for. Lack of modern labour-saving devices, of proper heating, lighting, water and sanitary systems add to the burden.

The complaint is very common that attention has been concentrated on improvements in agriculture, while the development of home and social life has been neglected. Progressive farmers thoroughly understand the value of scientific care of live stock, but give no thought to conditions in their own homes; barns, wells and stables are planned with a keen eye to minimizing labour, but no attention is paid to the waste of labour indoors. The farmer invests capital in his farm; it does not occur to him to invest capital in his home. It simply does not occur to him. He does not realize that the house as well as the farm is a business, the management of which may be either progressive or antiquated.

To-day the farm woman is striving to do her work with the same equipment and with less help than her grandmother had. The ease of living elsewhere draws away those from whom she might otherwise obtain assistance. As labour has become scarcer and more expensive the farmer has been aided with information about labour-saving devices and systems of management. His wife asks for similar assistance.

While it is generally recognized that whatever benefits the farmer benefits them, to many the direct benefits are not readily apparent. Prosperity and enlarged farm operations not only fail to bring relief, but rather the reverse. Abundant crops need hands to harvest them, and the farm woman must feed the hands. To many this is the last straw. Already overdriven, they object to having this additional burden



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thrust upon them. Efforts to promote dairying and poultry raising are often regarded with disfavour, for when the men are fully occupied with the work of the fields, on the already overworked woman must fall the burden of caring for additional cows and chickens.

Being employed incessantly with routine tasks, the farm woman is confined to the home. She has few social opportunities, and improvement and development for herself and her children become difficult. To this condition is largely due much of the isolation and loneliness complained of.

It is urged that the better distribution of available labour combined with a diverting of the stream of immigrants from the city to the country would assist in remedying some of the drawbacks of farm life. The establishment of co-operative laundries, bakeries, butchering and canning plants is also advocated.

For their children, women demand preparation for the practical aspects of life. It is argued that under the present system, schools educate the young away from their life work. Those seeking a higher education can obtain it at present only in towns, where they quickly lose all sympathy with farm life. To remedy this, many look to the establishment in rural districts of what may, for want of better name, be termed agricultural high schools. Such schools should provide instruction in Agriculture and Domestic Science. The importance of domestic science is dwelt on particularly as the only remedy for this tendency on the part of girls to depise all housework, as a species of degrading drudgery. This attitude makes them not only inefficient but unwilling as well. With greater knowledge would come greater satisfaction in the performance of their duties.

Agriculture is the meeting point of many sciences. So also is home-making. For both scientific education is necessary. And to consider one without the other is to have a one-sided development. It is useless to educate the farm boy to be a better farmer, to apply principles of science and business to farming without a corresponding education of the farm girl in the principles underlying home-making.—*Co-operation in Agriculture.*

## NOTES ON WOMEN'S INSTITUTE WORK.

### ONTARIO.

The president of the Thunder Bay District, Mrs. D. J. Piper, in her address at the district annual meeting, held in June, pointed out "that, as women who are not found at the institute must be reached in order that they may be taught to be practical and efficient, the Government will be asked to appoint a woman as district representative, just as a man is appointed to instruct the men, whose duty it will be to visit the isolated homes and to teach the women and daughters in order that their highest work in life, that of home-making, be not ignorantly undertaken. Greater efficiency will surely bring about better conditions for the farming community of the district, and the results will justify the expenditure for the salary of the resident instructor."

The four weeks Domestic Science course, given under the auspices of the Women's Institute at Aylmer was exceptionally successful. At the first forenoon session more than forty girls were present, and in the afternoon as many as one hundred and fifty women.

Prince Edward County has eleven branches, each linked with the other. All hold monthly meetings, and unlimited is the scope of their subjects. Each take up needed work in their locality; one, a park; one, the school; one, the cemetery; one, school fair, etc., and all, the Red Cross work, Belgian work, etc. As they were thoroughly organized, it only needed the stating of the need to meet with hearty co-operation.



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"Woman, through her keeping of the 'Home and Country' motto, is learning many things, not the least of which are the sharing of her advantages with the one next door, the reaching out the helping hand to others, and learning of many things from those she meets, with the result that brightness comes to her own hearth and radiates to the extreme end of her locality, of her county, of her country—yes, and beyond."

"At the beginning of the year it was suggested that we build a Women's and Farmers' Institute Club Hall and in one week the Women's Institute Committee had collected over \$500 in money, lumber and labour. Since then we raised \$40 by a small box social, for the hall. On July 1st, the Women's Institute served a dinner, supper and midnight supper and gave a dance from which we received \$62. This summer we have had two 'bees,' and the hall is now in process of erection. We hope to be able to use it this winter and finish it by degrees.

The building is 24 x 60. There will be a committee and reading room with folding doors, which can be opened into the main building. There is also a kitchen attached. We hope in time to have the grounds fenced in, with a lawn, flower beds and a tennis court. Later we expect to build a drive shed.

This winter, if possible, we shall have the reading room heated, and supplied with magazines, to be used as a rest room by members from a distance who come to shop. The young people will also have some place to go in the evenings, and we may get some games. We hope to have lectures and concerts, etc. It will be such a boon to this community, and the population is increasing so rapidly that we thought it better to build a large hall to provide for the future."—Hymers' Branch.

"Friday was a 'red letter day' for the Whitby branch of the Women's Institute, in that on that day the new rooms in the Agricultural Department's building, to be devoted to the women's work, were opened. The ceremony marked a distinct step in advance for the Institute. For a considerable time, the lack of sufficient accommodation has been a serious handicap to the ladies in their endeavour to render efficient service along the various lines of their work. The new rooms fill the requirements perfectly. They offer a splendid meeting place, and the kitchen in connection makes possible the carrying out of a great deal wider programme along the line of demonstration. The rooms also afforded the Institute the means of providing a rest room for women who may be strangers in town, where they may rest, read and write and make themselves at home. All were deeply impressed with the value of such a place in the life of the community."

"Nearly a year ago a number of the ladies of the Tillsonburg Women's Institute decided that the teaching of sewing to the girls in the Public School would be a helpful mission that they might undertake with great advantage to the pupils, and after an interview with the School Board, who readily gave their consent to the scheme, the work was started, under the supervision of the President. Since then plain sewing has been taught along the lines authorized by the Education Department."

"The members of the Sleeman Branch, in the Rainy River District, go in relays each month to clean the school. This Institute is agitating for better school equipment and grounds, and wishes to make the school the social centre."

At the annual meeting of the Lincoln Women's Institute the delegates decided in favour of a campaign in that district for the representation of women on the Public School Boards.

The Rothsay Branch has given a drinking fountain to the various schools in the community.

The Mount Brydges Institute has a school committee which visits the school each month and reports at the Institute meeting anything needed. This Institute also takes great interest in the school garden and fair.



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"We have bought seventy-five pounds of dynamite with which to blow out the stumps on the school grounds, and ordered paper to paper the school."—Kingsford East—Rainy River district.

The Erindale Institute (Peel) is taking an interest in school work and is agitating for a larger teaching staff.

"After using the travelling library for twelve months, the institute decided to have a public library and at one of the regular monthly meetings opened a subscription list and raised over \$50 for this purpose. An additional amount was raised in several ways, and early in the summer a public meeting was called and the public library organized. They now have 362 books in circulation. In November last, the institute arranged for medical inspection in the school, and they learned that inspection is quite as much needed in the rural schools as in the city. The members are hoping for a continuance of this work."—Beachwood Institute.

"I don't see how we could do without our Women's Institute, and any town which has not a band of these enthusiastic women is surely to be pitied. When we were all plodding through mud over our boot-tops and everybody growling about it, but making no effort to remedy the case, our institute took up the matter, provided material, and before long we had a sidewalk from the post office to the station; and again, when the schoolhouse was badly in need of a cleaning and no one could be found to do the work, along came our Women's Institute with pails, brushes and soap, and did the school up in first-class order."—Earlton Institute.

BRITISH COLUMBIA.

"Co-operation and public spirit were exemplified when, under the auspices of the Women's Institute the farmers and residents of the Matsqui dyking district reconstructed a stretch of road that for a long time had been impassable. This road is the main thoroughfare over which the farmers convey their produce to the C.P.R. station, and as funds were lacking for its construction, the members of the Women's Institute organized a village improvement day and their call was answered by the farmers within a radius of three miles of the village. Sixty-five teams were put to work early in the morning hauling crushed rock from the government bunkers at Gifford, three miles away, and about one hundred men in all worked throughout the day on the road. By night just 140 loads of the road material had been hauled and put in place. The Government donated the crushed rock, also supplied the roller and sprinkler. Four horses were hitched to the roller and as fast as the rock was levelled off it was rolled.

An excellent dinner was served in the Women's Institute building by the ladies, and music was furnished throughout."—Matsqui, B.C.

"A working bee was held in the school grounds during June in order to clear a portion of the yard as a picnic ground. Thirty-seven men gave their services for the day, and much was accomplished. It is to be hoped this clearance will lead to the organization of school gardens at no distant date. The members of the institute showed their appreciation of this voluntary aid by furnishing a hot luncheon and a good supper to those who gave their time to this excellent object."—Langley Fort, B.C.

"The West Summerland Institute has taken the lead in submitting plans to assist members towards getting into touch with the institutes of Manitoba and Alberta for the purpose of marketing fruit from the Okanagan Women's Institutes, and they hope to make these plans workable before the fruit season comes on. At the February meeting the importation of apples from the States to Nelson was discussed at length, and the members pledged themselves to refuse foreign-grown apples, when it was possible to procure the local fruit, even when such home-grown apples should not be of as good quality, provided that the price of the local article corresponded to its quality.



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"The next topic discussed was the local market, and Mrs. J. Johnstone was delegated to attend the city market that evening to ask its co-operation in appointing a board of control, composed of two business men of the city, two ranchers and two women, with the mayor at the head. The question of proper weights, revision of prices and the supervision of the market will also be dealt with."—Nelson, B.C.

"Our institute took charge of the women's and children's section at the fall fair and offered prizes for children's exhibits of flowers and vegetables."

"A magazine club has been started in connection with the institute for the settlers in Steel Head Valley, a new district opening up about seven miles away."

"The City Beautiful Committee reported on saving a fine tree from being cut down, and suggested that the council be asked to prevent the cutting down of trees that were sound and which did not interfere with property."

"The Kalso jam factory was started in 1913 to help preserve the surplus of fruits and encourage the manufacture of home products; \$200 was received from the sale of these during the past year."

#### NOVA SCOTIA.

"At our April, 1914, meeting the president called for suggestions as to special work to be taken up by our Institute. When these were given it was found that the one which appealed most strongly to the members was that we secure some place in which the young men and boys could spend their evenings. Also that we secure a permanent place in which to hold our meetings and that we start a small library for the Institute members."

"Space will not permit us to speak of all the work we did that summer—how we secured a site, how the men helped with money, labour and teams; but as a result of all this labour we will simply say that on October 1st our W. I. meeting was held in a room especially built for our use in a fine new hall, which also contained a gymnasium, a reading room, and a game room, the idea being to make it so attractive that the boys will not wish to loaf around the streets. On this day also we had awaiting us one of the McGill travelling libraries.

"Before the opening of the hall we had begun doing Red Cross work and up to this date have spent about \$250 for materials and have sent forward four shipments of supplies. This winter the Citizen's Hall (as our building is called) has been the social centre of the community. In it have been held concerts, parties, lectures, etc. The young people have also enjoyed their basket ball, and skating as well, for we have a rink on the hall grounds. In the summer we hope to have these grounds prepared for ball, tennis, etc. We are only beginning to see what may be done by a band of women earnestly endeavouring to help as much as possible their community and their country."—Port Williams, N.S.

"The exigencies of the times have made Red Cross work our principal undertaking, and into this work we have entered heart and soul. Finding our funds somewhat low, we had a chicken supper, which netted us \$100. This money we are laying out in yarn, flannel, etc., and at a weekly sewing and knitting society we are manufacturing the material into finished garments for the soldiers. When our \$100 is spent, we shall raise more, for we are determined to sew and knit—knit and sew—just so long as our brave soldiers need our help."—Round Hill Institute.

#### NEW BRUNSWICK.

"A committee was appointed to find out, if it were possible to rent the Temperance Hall for the purpose of providing a permanent place of amusement for the young people of the community. Great hopes are entertained that money will be donated or raised in some way to establish a gymnasium and reading room for the winter months and a tennis court for the summer and fall months."—Lorneville Institute.



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"Surely it must have made the members of the Hartland Institute feel anything but downhearted to read the following item taken from their weekly newspaper: "At last Hartland residents are privileged to traverse the streets at night without danger to life and limb. For a long time the men of the place have complained of the darkness and discussed various plans to light the streets, but nothing ever came of it. Then the Women's Institute took the matter up and as a result there are now several gasoline lamps, attached to telephone poles, in positions where most needed, and the streets are well lighted."

"The women from the country recently received a surprise at the Ladies' Waiting Room in the market. The Fredericton Institute placed stationery and magazines in this room, and hope before very long, with the co-operation of other branches in York County, to establish a Rest Room for the benefit of women from the surrounding country."

"Nashwaaksis Institute 'Girls' Meeting' was voted the best meeting ever held by that Institute. At this meeting the Chairman of the School Committee reported having bought and placed in the schoolhouse two sanitary water-coolers."

"The Woodstock Institute recently held a successful 'Clean-up Day' about town, were ably assisted by the Boy Scouts."

"Hammond Vale and Markhamville Institute has put a hardwood floor in the Markhamville school-house at a cost of \$40. The Hammond Hall has also been improved by the Institute, the inside being sheathed and the outside painted at a total cost of \$100."

"Clifton reports an interesting meeting for October. Papers were read on 'Where Home and School Meet' and 'How Women Working Collectively and Individually May Help the Public Schools.' A committee was appointed to arrange for a Fair for the children of Kingston Parish Schools at Kingston, when all might exhibit products grown in home plots, household science work, etc."

"The Fredericton Branch, in carrying on its 'Civic House-cleaning Movement,' has appointed committees to see that bakers wrap their bread in a sanitary manner, and the garbage pail question is being investigated."

"Dalhousie Junction Institute members have bound themselves to complete one hospital garment each, every week."

"The Dumfries Institute is succeeding in getting the young people interested in the work. The Institute cleaned the school-house in the community, and put up window shades and pictures, making the room in every way attractive."

"Throughout the summer months the Institute held a series of picnics for the school children, when they worked in the school gardens under the direction of the teacher. This Branch is also cleaning the grounds about the station—which is in the centre of the town—and making it into a miniature park, by planting trees and flowers and placing seats."

"The money now on hand for the motor ambulance totals \$1,727.72. It has been thought advisable to add an extra wheel to the ambulance and sufficient money is now on hand for that purpose."

PRINCE EDWARD ISLAND.

"A little over a year and a half ago when the Women's Institutes were organized in this province and this new-found economic power was recognized, it was wondered by some what the outcome would be. Among some the first thought was that these institutes were merely a fad; that they would continue for a time only. This thought has been answered—and answered in no uncertain way, for the work has spread rapidly and now reaches from Summerside, in the western part of the Island, to East Point, in the eastern section.

"This great movement is not a passing organization; it is a work representing a great economic force. The Women's Institutes are opening up a new era in the line



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of housekeeping, for which the women of the generations to come will ever be grateful. They are improving our schools and school grounds, they are instituting libraries, studying kindergarten methods, music and art, planning to have courses in sewing and home nursing and short courses for the introduction of manual training and household science courses into the rural school curriculum.

"One of the most pitiful things about the situation of sanitation is the indifferent acceptance of conditions by people generally. It is safe, however, to predict that the sanitary conditions of the rural schools and homes will be numbered among the list of improvements. The proper arrangement, equipment, lighting, heating, ventilation, toilet facilities, playground and physical care of a rural school are within the reach of almost any community, however poor, providing the necessary information finds its way among the people.

"For years the rural population has been trying to help in the solution of problems peculiar to their communities, and the difficulty perhaps has been to get the parents of children attending school to do their share. Now one of the most important phases of education is beginning to be recognized by parents—that of hygiene and sanitation—and the women of the institutes of Prince Edward Island have undertaken as their prime work that of bettering these conditions in their schools and surroundings.

"If the promises of the Government of the province are fulfilled and the hearty co-operation of its school inspectors and district representatives maintained, a happier day is dawning for life in Prince Edward Island villages and countrysides through the efforts of its organizations of women's institutes."

The following notes from various institutes indicate the nature of the special work being carried on by practically all the women's institutes of the Island. The majority have also contributed to the Red Cross Society, Belgian Relief and patriotic work.

The East Wiltshire and Warren Grove Institute painted the inside of the East Wiltshire schoolhouse, supplied new shades for the windows, new desk for the teacher and drinking fountain and cups for the children; also papered and cleaned the inside of the Warren Grove schoolhouse and supplied fountain and drinking cups for the pupils of the same.

*Meadowbrook.*—Have painted the walls and woodwork of the schoolhouse, whitened the ceiling, bought a tank for drinking water, paid for the work of laying a new hardwood floor in the schoolhouse, and will help pay for materials, put up shelves for window plants.

*Stirling.*—The members of this enterprising institute are fitting up a hall in a vacant house for the use of the institute, after which a programme will be planned for the winter work.

*Malpeque.*—This institute has, in connection with its regular work as an institute, a sewing circle, which meets independently of the regular institute meetings, but is comprised of members of the institute. These ladies make and sell the garments for the benefit of the treasury of the institute. The funds of this institute have gone toward school improvement, such as the furnishing of new desks in the Malpeque school, as well as improvements in the Hamilton school, janitor services and scrubbing of schools.

*York.*—To date we have expended the following: For school improvement, \$35; for public hall, \$34.50; in prizes at Seed Fair and Local Exhibitions, \$8; for patriotic work, \$119.54.

"The ratepayers in both Lakeville and North Lake district have each agreed to bring a hardwood log to the mill for hardwood floors; the institute is going to pay for sawing, laying, etc."



SESSIONAL PAPER No. 15c

HISTORY OF QUEBEC HOMEMAKERS' CLUBS.

The history of these organizations as compared with that of the other provinces in the Dominion is unique inasmuch as the women of Quebec, unassisted by the Government, began this work themselves. In all the other provinces of Canada, the Provincial Government has not only assisted in establishing agricultural societies for the benefit of the farmers, but has established separate organizations for the women of the farm homes, and has made special provision for giving them instruction along lines bearing directly upon the duties devolving upon them as homemakers.

The first organization of this kind for women was formed at Dunham, in January, 1911, under the leadership of Mrs. G. M. Beach, who may be justly regarded as the pioneer of this work in Quebec Province. In February, 1914, a convention of representatives from the first formed clubs met at Macdonald College. A constitution was drawn up and the name was changed to Quebec Homemakers' Clubs. The college promised to aid the clubs in every way possible until such a time as the Government should come to their assistance.

The object of Homemakers' Clubs, as set forth in the constitution is as follows: To study the most scientific way of conducting homework in order to economize, strengthen and preserve the health of the family, to discuss the best expenditure of money in order to secure the highest conditions of home life; to provide better financial, social and intellectual advantages for farm boys and girls and yet keep them on the farm; to carry on any line of work which has for its object the welfare of home or community life. All clubs organized shall be strictly non-partizan and non-sectarian in every phase of their work, and no club shall be operated in the interest of any party, sect or society, but for the equal good of all citizens.

The second annual convention of the Quebec Homemakers' Clubs took place at Macdonald College, June 15 and 16, 1915. Forty-one representatives from the various clubs were present. The report of Miss Campbell, demonstrator for the clubs, showed that since the last convention the clubs had increased from eight to thirty-three, and the membership from 252 to 633. The number of lectures and demonstrations given by the demonstrator were 14, and in connection with the January Short Courses, 14, making in all 28. The number of organization meetings held, 31, and the number of clubs organized 25. Lectures and demonstrations by other members of the Household Science Staff, 7. Lectures and demonstrations by members of the staff of the School of Agriculture, 2. Since September last the clubs have been busy with patriotic work, knitting and sewing for the Red Cross, and raising money for the Patriotic and Belgian Relief Funds. Large quantities of supplies have been sent in, as well as considerable sums of money. The clubs already engaged in this good work were urged to continue it until peace comes again, and it was suggested that the clubs lately organized take up the work as soon as possible.

Judging from the enthusiastic discussion following from the various papers read it seems safe to say that the Homemakers' clubs are, and will be to a greater degree every year, a force for the improvement of the home, the school and the community.



## APPENDIX E.

## MISCELLANEOUS.

## THE VETERINARY PROFESSION—ITS IMPORTANCE, INFLUENCE AND PROGRESS.

H. J. P. GOOD, in the "Farmer's Advocate."

Under the Agricultural Instruction Act, introduced and passed by the present Minister of Agriculture, in the allotment of ten million dollars for the encouragement and development of instruction in agriculture extended over a term of years, it is especially provided that \$20,000 shall be set aside for the encouragement and aid of the veterinary colleges. It is not a great sum in proportion to the whole, but it is a good deal, not so much in the amount as in the recognition compared to what has gone before. For more than half a century, yes, for sixty years, veterinary education has progressed in Canada with little more than tacit recognition. Dr. Andrew Smith founded and prosecuted the veterinary college to success, not by official countenance and support, but by shrewd business sense and appreciation of importance. He built a college out of practically nothing and by persistent patience succeeded in gaining what from the first his heart desired—official support and cognizance of a branch of education that is inextricably concerned with the welfare not exclusively of horses, cattle, sheep and swine, but also with that of the nation. The gathering of three students before one master was the beginning of veterinary instruction in Canada.

It is hard to believe but it is the truth that until the advent of Dr. Andrew Smith, then plain Mr. Smith, some fifty or sixty years ago, veterinary knowledge or experience was virtually unknown in this country. If the animal had an ailment that might infect thousands it could go unheeded and few cared. Human beings could have illimitable complaints and the last origin that would be imagined would be the meat they consumed. In recent years the situation has changed. Both the provincial and federal governments have conceded the matter their careful consideration. Municipal health officers have also given the subject attention. They have prescribed all kinds of rules for the inspection of stables between hours, but they have left the other hours to take care of themselves, with the result that slaughterers of animals can in cases wait until the inspector has left and then pursue their own sweet will. At the Toronto city abattoir and at the reputable abattoirs, of course, this is impossible, although it is a question whether every city, town, village and township should not have a law providing that any animal slaughtered without prior, as well as subsequent, official inspection should subject the butcher to a severe penalty.

Important as the subject is there are up to the present but two veterinary colleges or schools in Canada. The time may be near at hand when at least first aid for animals will be taught in rural schools by the side of other agricultural subjects—for veterinary knowledge to a large extent belongs to agriculture—and the elements of the science find a place in the curriculum of every agricultural college. At present, however, education of the kind is confined almost entirely to the Ontario Veterinary College situated to the north of University avenue, Toronto, and the school of Comparative Medicine and Veterinary Science at Montreal.

In other countries as well as in Canada, the veterinary art has an interesting history. Up nearly to the end of the eighteenth century even in Britain, but little



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attention had been given to the subject. In 1791 the first veterinary college was established. This was at Camden Town, London, and the institution is still doing good work. Nearly three-quarters of a century later, or to be exact, after 74 years had elapsed, the Albert Veterinary College, named out of regard for the memory of the Prince Consort, Albert of Saxe Cobourg Gotha, who had died four years previously, and who had been the first of royalty to manifest active interest in the profession, was established. Shortly afterwards the Royal College of Veterinary Surgeons received august recognition and by sovereign mandate obtained permission to use the distinguishing prefix to its title. At the same time Fellow of the Royal College of Veterinary Surgeons, or F.R.C.V.S., which the late Dr. Andrew Smith possessed, became an honour much sought after but which comparatively few attained. Thus at least in the old land itself did the veterinary calling receive some part of the dignity and recognition that it richly deserved. Prior, however, to this consummation a college had been established at Edinburgh and it was from there that the founder of the Ontario Veterinary College, and for 46 years its principal, graduated and came to Canada. In 1861, Hon. Adam Ferguson, then president of the Agriculture and Arts Association of Ontario, and George Buckland, professor of Agriculture at Toronto University, went to the Scottish capital and supported by the provincial government of the day made the young graduate an offer which he accepted.

The beginnings of the Ontario Veterinary College were small, as they have been of many things worth while. In 1862 there were but three students. This year—that is 1914-15—there were 232, rather fewer than in some previous years, for the reason that the students of veterinarianism have not been behind their fellows in other educational institutions in offering their services on the field of battle to their country and the empire. Upwards of a hundred have gone, and as a consequence the average of 275 for each of the previous five years dwindled to some extent, but not sufficiently to disprove the statement that, had affairs been normal, the college would not be experiencing the greatest numerical success in students it had ever achieved. In 1908 Dr. Andrew Smith, who died two years later, found his health failing and resigned. The Provincial Department of Agriculture then took immediate control of the college and appointed Dr. E. A. A. Grange, a gentleman of wide experience, to the principalship. Up to this happening only a two-year course was required of students before offering themselves for graduation. With the new order of things a three-year course was decided upon. Not only had the college up to that time attracted an attendance from every part of the Dominion, but also largely from the United States because of the two-year course.

With the addition of another year the attendance from abroad lessened, but the number of Canadians greatly increased, and from being less than half of the total of students became better than three-fourths. Up to the commencement of the 1914-15 term the work of the college had been prosecuted in a building erected on the site on Temperance street, Toronto, where fifty-three years ago its foundation was laid, and from whence had graduated upwards of three thousand students, some of whom gained continental celebrity. In the autumn of 1914 a handsome and commodious new structure, erected by the Ontario Government at a cost of \$250,000, on University avenue, in close proximity to Toronto University, with which the veterinary college is affiliated, was occupied. Simultaneously with the taking over of the college by the Department of Agriculture, the two degrees of Bachelor of Veterinary Science and Doctor of Veterinary Science were created. At the same time a stringent act came into force penalizing anybody representing himself as a veterinary surgeon who had not graduated from the college in a fine of not less than \$25 and of not more than \$100.

In the Province of Quebec, too, veterinary education in recent years has made great advancement. Before 1886 Dr. Charles McEachran conducted a veterinary school in Montreal. In that year and for six years the late Dr. Daubigny delivered lectures



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in the French language in the McGill Veterinary School, and for one year at a veterinary school affiliated with Victoria University. In 1893 the legislature of Quebec passed an Act consolidating these two schools and creating The School of Comparative Medicine and Veterinary Science, which became affiliated with Laval University and is still so affiliated. In 1899 it came under the patronage of the Minister of Agriculture, and from that time the trend has been constantly upward and onward. Up to 1913 the lectures were given at Laval University and the clinical demonstrations at the old establishment founded by Dr. Daubigny. In that year a fine new building, especially erected on DeMontigny street, was taken into possession. One of the provisions of the charter is that the Quebec Minister of Agriculture, or the provincial government, shall have the privilege of sending 25 students to the school who shall receive tuition free. Dr. E. P. Lachapelle is president, Dr. F. T. Daubigny, son of the original founder, director, and Dr. A. Dauth, treasurer.

Between the foregoing two institutions the \$20,000 grant from the Federal Government previously spoken of is divided annually according to the number of students, and under the terms embodied in The Agricultural Instruction Act of the Dominion.

And now a few words as to the general status of the live-stock interests in connection with the work of the Veterinary Director General. For information on this point we will turn to the report of the Federal Commission of Agriculture on the first year's working of the aforementioned Agricultural Instruction Act. After quoting figures showing that the estimated value of the live stock in Canada in January, 1914, was \$659,308,222, embracing 2,947,738 horses, 2,673,286 milch cows, 3,363,531 other cattle, 2,058,045 sheep and 3,434,261 swine, Dr. C. C. James says:—"The Department of Agriculture of Canada is charged with two lines of work known generally as the "Health of Animals" and "Meat Inspection," both of which are under the control of the Veterinary Director General. In the carrying out of this federal work, which is increasing from year to year, men with special training are required. It is desirable that these men be trained in Canada. To meet these demands it is necessary that our Canadian veterinary colleges be well manned and adequately equipped. The work that lies before graduates, apart from private and corporate practice, will be appreciated when it is stated that to the end of 1914, 36 veterinary surgeons had been appointed in connection with the Contagious Diseases Division, and 27 for meat inspection. At the close of 1913 no fewer than 93 veterinary specialists were engaged at abattoirs and canning plants. In addition there is a staff of 25 and more lay inspectors. When it is stated that the total killing in one year amounts to upwards of three million animals and that nearly a million pounds of flesh were condemned besides thousands of hogs and other stock ordered to be slaughtered to check the spread of disease, some idea will be reached of the value and importance of the veterinary profession."

#### EXTRACTS FROM REPORTS OF DISTRICT REPRESENTATIVES, ONTARIO.

"We held our first school fair at South Mountain on October 1st with an attendance of 800 people. . . . The school parade proved to be an interesting feature of the fair. We had each school do a march past in front of the judges. They stopped and went through whatever drill had been arranged when directly opposite the judges' platform. After all the schools had gone through their drill, we had them march back and mass in front of the platform and sing 'God save the King' in unison. With something over 300 pupils taking part and most of them waving flags, you can well imagine that it was a very interesting feature."—E. P. Bradt, Dundas County.



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"One very noticeable thing in connection with fairs held at places like Stroud for two or three years is the great improvement in the quality of exhibits. Pupils are quick to take notice what kind of exhibits win and they look more to uniformity and quality than to size. Ivy School Fair on the 15th was very much ahead of the one held last year. People in the locality understood the object of the fair better and everyone seemed to be willing to assist it. Last year one calf was shown, while this year we had eleven, and everyone better quality than last year's individual."—J. Laughland, Simcoe County.

"It was a surprise to see the large entry in weed and weed seed collections. Almost every collection was perfectly mounted and named. It was not uncommon to find collections which would compare favourably with those handed in by the second-year students at Guelph. For the weed naming contests we selected 20 specimens at random and there were young boys and girls so well posted as to be able to name the lot without hesitation or mistake. When one gets results like this from a simple weed campaign such as we conducted last summer, it is encouraging. A knowledge of weeds such as was displayed means something too for the clover seed industry of this district. Next year we expect to put on a weed-seed naming contest and increasing the number of prizes for weed classes."—P. Stewart, Kenora District.

"One of the parents told me that he wished to thank the department for the school fair idea. His son, who is about 12 years of age, has taken charge this year of all the calves on his farm. This boy has been experimenting with different feed for calves and has come to the same conclusion at this early age that a number of our most prominent breeders have come to, and that is in regard to the feeding of oil cake to calves. He finds that ground oats with alfalfa hay have given him best results. This was his own report at the school fair."—H. R. Hare, Halton County.

"Good seed distributed to the children has probably done more for us in this county than any other work we have undertaken. To give an instance, practically every farmer is greatly delighted with the O.A.C. No. 72 oats that were distributed this year. Our corn also is giving excellent results, as also are our potatoes, for the simple reason that the seed of these different crops was just as good as could be procured, and we took special pains in selecting it when sending it out. The result is that every one is more than satisfied."—F. C. McRae, B.S.A., Peterborough County.

"Many interesting things develop as the School Fair work becomes established or extended into new territory. We find instances where the chickens hatched from eggs which have been supplied to the pupils are forming the foundation of the home flock, and remunerative results have already been obtained. In one case last year a boy had 11 chickens from his dozen eggs and in the fall disposed of 6 cockerels at not less than \$1.50 per bird. There are also several cases where the potatoes have been propagated from year to year and now form the main potato crop on the farm. The same applies to grain, and I have one instance in mind where the father has five acres of O. A. C. 21 barley which originated from the sample given to the son in 1913."—W. D. Jackson, B.S.A., Carleton County.

"I have been shown some excellent fields of grain which have had as a source of seed the small quantities given to the children two or three years ago. The same applies to potatoes. This distribution of the O. A. C. 21 barley throughout this county by means of the School Fair plots has been very striking. Before the seed was distributed through the schools a large majority of the farmers in this district were sowing the two row type of barley. It is now the exception rather than the rule to find this two-rowed barley being grown. There is no question but that the home plots of the Rural School children are an excellent medium for introducing good seed. The value of the School Fairs to the province in this regard alone can hardly be estimated."—E. P. Bradt, B.S.A., Dundas County.



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"Never before was I so thoroughly impressed with the need of securing the very best seed for the school fair, and if the school fair is doing nothing else in our county it is laying the foundation for better seed, hence better crops on many of our farms."—A. B. Whale, B.S.A., Middlesex County.

"In response to a call from the trustee board of S. S. No. 3, Rainham, Mr. Archibald and I rendered assistance in laying out a new school ground. Grading stakes were placed at regular intervals over the ground and a system of drains planned as well. Ornamental trees and shrubs will be placed on the ground in due time. These improvements will make the school very attractive, and the spirit is largely due to the work of the rural school fair.

"The trustee board of Hagersville High School has drawn my attention to an expression of appreciation on behalf of the ratepayers in connection with the short course in agriculture held in that school last winter. In order that more of their sons might receive elementary agricultural instruction, they have asked that an agricultural teacher be regularly employed. The board has decided to take steps immediately in securing a competent man and in fitting up a suitable class room."—G. L. Woltz, B.S.A., Haldimand County.

"Reflecting on some of the lines of work which have occupied considerable of our attention, it is gratifying to note that results are becoming more evident daily. About a dozen young men are keeping herd records this year for the first time in the history of the farms they live on. More pure bred sires are heading herds than ever before, and the tendency to go into pure bred stock is evidenced by the large herds of uniform Holsteins and Ayrshires seen on every cross road in agricultural sections. The drainage campaign we have carried on in conjunction with the Physics Department of the O. A. C., has at last brought us a large traction ditcher to help complete the system for which we have made so many surveys. The increased acreage of alfalfa and sainfoin clovers, and the largely increased number of silos and acreage of corn would seem to indicate that our encouragement to the dairy industry at the short courses and special series of meetings is having good results. It is significant too that recently four young men have been into our office to discuss ways and means of taking a course at the agricultural college, and that public school pupils from various sections are beginning a regular correspondence with our office, mostly *re* school fall fairs."—A. D. McIntosh, B.S.A., Hastings County.

"Throughout the season when we were judging the plots it has been very interesting to note the number of cases where farmers have carefully saved the seed which the pupils had obtained from the seed distributed. I came across one special case at South Bay. John Rose was one of the pupils who in 1914 obtained one pound of O. A. C. No. 72 oats and he won first prize for best kept plot, first prize for sheaf exhibit at the Fair, and first prize for grain exhibit at the Fair, and had a yield of 18 pounds of hand picked seed from the plot. When I visited his place this week his father went with the boy and myself to see his this year's plots which were exceptionally good. He also had a small field which he had seeded with last year's seed. I have another report from the boy's father and he tells me that they have threshed the grain and will have over 10 bushels of excellent seed.

Another case with reference to the chickens was brought to our notice in the township of Hillier. In 1914 Miss Flora Bailey had five pullets and one cockerel, and from these alone she and her parents have raised over 150 chickens this season. These are merely two examples from different parts of the county and represent possibly better than the average."—A. P. MacVannel, B.S.A., Prince Edward County.

"One of the boys who had secured two pullets and a cockerel from the eggs supplied last year has already hatched 75 chickens from these and has another setting



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coming on. The introduction of so many chickens from the bred-to-lay strain cannot help but have a beneficial effect on the poultry farms in the district.

On the whole the children have evinced more interest this year than last, more care being taken to follow the directions which were given them with the materials, and it is pleasing to note that the parents are also becoming interested, as was evinced by one statement made at one place where they had never had a garden before, but in connection with the School Fair work the material was distributed and the interest manifested by the children led them to put in a garden for their own use as well."—R. S. Beckett, B.S.A., Northumberland County.

"Kindly send me a supply of leg bands, as my chickens have outgrown the others. The chickens are very large and healthy and are much different from ones my mother raises. I am very much interested in the chickens and would be glad to have any news concerning them. Your interested pupil."—J. T. Johnston, Kent County.

"In visiting one little girl's plot I was surprised to learn of her success with the bred-to-lay chickens which she raised last year. She sold four cockerels last fall at two dollars each and made nearly as much more by selling eggs, along with her prize money at the fair."—I. C. Steckley, B.S.A., York County.

"Yours to hand *re* cheque for \$5, Clarke Rural School Fair Association. Might say that I was more than pleased to make out same for such valuable work. I am sure that if anything needs encouragement it is the agricultural system to keep our boys on the farm and give them a start that they perhaps may follow to success. So many have failed and have gone to the town and city only to make things worse. However, the time is near at hand when nearly all classes and creeds will come back to the land. I wish the officers and directors a huge success in their new undertaking, and that it may grow with the boys and girls so that they can in after years look back with pride to their early start in life. Yours very truly."—To R. S. Duncan, B.S.A., Durham County.

"It is quite gratifying to listen to the expressions of opinion by the parents. One farmer said that he thought that the strain from which eggs were distributed last year was the best that he had come across, as the pullets raised in competition had laid well all winter, and right on through the spring and summer, two-thirds of them not offering to cluck at all. Another woman said, "I think this work is just splendid, Mr. Carroll. When my boy moved out here from the city two years ago he didn't know corn from potatoes, now he not only knows the sorts of farm crops, but also the difference in varieties, as well as weeds that are troublesome. Last year he received eggs, and had splendid success with them, so much so that he won first prize for the best flock at the school fair. That settled it—he wanted full charge of the poultry right away, and since last fall no one else has had anything to do with the chickens. He has been getting the eggs, too."

"Still another farmer when looking at his son's grain mixture plot said, "There is a fine object lesson now—look at the way that oats and barley have ripened uniformly. I did not know that there was a variety of oats that ripened as early. It looks as though there would be a good yield, too. I think that mixture should be used on our farms."

"The home grown root seed which quite a number of pupils are growing is attracting a good deal of attention."—J. A. Carrol, B.S.A., Peel County.

"In nearly every case the O. A. C. No. 72 oat has been superior to the varieties grown by the parents. As a result of this distribution quite a number of farmers have considerable areas sown from the product of the seed distributed last year. The distribution of Barred Plymouth Rock eggs is also working out in the same way, and



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this will mean the elimination of a great many mongrel flocks of chickens. Besides this, most of the boys and girls who received eggs are selling their cockerels to their neighbours as breeding stock."—A. A. Knight, B.S.A., Victoria County.

"I received a great deal of encouragement from the visit, as one of the councillors talked very highly of the school fair proposition, stating that the benefits that will be derived are not as apparent at the present time as they will be a few years hence. He gave as an instance that his own children had never handled a hoe or pulled a weed before the school fairs were held, but since taking hold of school fair work he finds it hard to keep them away from their plots."—P. S. D. Harding, B.S.A., Lanark County.

"We visited an alfalfa experiment on the farm of Mr. John Thom, of Walter's Falls. It was a three plot experiment, each plot containing  $\frac{1}{80}$  of an acre and the varieties tested on two of the plots were Grimm and Ontario variegated. The seed for the other plot was purchased from the local store. The first cut had just been cut and weighed and the yields from Ontario Variegated and Grimm's were the same, being 190 pounds from the plot, and from the other plot it was only 120 pounds. This certainly gives convincing evidence of the value of sowing the best varieties of alfalfa seed."—F. S. Reeker, Assistant, Grey County.

"Our work in assisting farmers to combat the grasshopper outbreak was extended considerably west of the district in which we had been giving assistance during the previous week. We held one meeting at Berkeley and then made arrangements with a committee to visit the farmers not represented at the meeting. No difficulties were experienced in persuading the farmers to treat their fields. We should like to be able to give an estimate of the number of acres treated, but such is impossible. All the stores in Markdale have sold every pound of bran, Paris Green and black strap that they had on hand. What is being used now is coming from Berkeley, Holland Centre and Chatsworth."—H. C. Duff, B.S.A. Grey County.

"I inspected two of the oat plots in the acre profit competition. One interesting feature of this work is the fact that the oats for one of the competitor's plots were treated with formalin for the prevention of smut, while the main crop of oats grown by the competitor's father was sown untreated. The result is that you can scarcely find one head of smut in the plot grown by the son in the competition, while the main crop grown by the father is about one-quarter smut."—C. Main, B.S.A. Frontenac County.

"On July 7th we held a milk testing demonstration at Hymers. We took our Babcock tester and necessary equipment up there for this work and it proved very interesting and successful. Following the demonstration in testing, which was given in the evening short course, lectures were given on the care and handling of milk on the farm. Previous to this demonstration we sent out instructions regarding the sampling of the milk for testing purposes, and many farmers were there with samples, anxious to find out which cow gave the purest milk. Some of the farmers were disappointed in that their samples tested lower than they expected, while others were pleased to learn that their samples were rich in butter fat, 25 samples were tested, 50 people were present."—G. W. Collins, B.S.A., Thunder Bay.

"The milk testing has awakened an interest in this section and shown the people the folly of keeping poor milkers and poor testing cows. Several of the farmers had already decided to fatten a number of their cows as they were boarders."—I. B. Whale, B.S.A., Middlesex County.

"I have been looking over the corn variety test plots this week, and am much pleased with the showing that these plots are making. Gage Brothers, in Glanford, told me that they were very much disappointed in the appearance of the seed; it was not nearly as good in appearance as some which they obtained from an Essex County



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grower; but the corn which came up in our plot gave a 100 per cent stand while they found it necessary to go over the rest of the field and replant it. They agree that \$1.50 a bushel extra for guaranteed corn would be a pretty good investment.”—R. L. Vining, B.S.A., Wentworth County.

“Hogs entered in the feeding hogs for profit competition were also examined and details concerning the contest discussed with the boys. Most of the boys are weighing the hogs frequently and noting gains from different feeds. It was gratifying to know that the boys who had been supplied with milk testers were keeping accurate record of their cows. One young man, Clayton Mansfield, was found to be keeping accurate accounts of his poultry, the accounts comprising amount and kinds of food fed, number of eggs sold locally, those used in the house and those used for setting, the net receipts were estimated monthly and showed a nice profit.

“I attended the meeting of the Middleton township council to ask for a grant of \$15 to the Rural School Fall Fair.”—Geo. Wilson, B.S.A., Norfolk County.

## AGRICULTURAL TEACHING AT PRINCE OF WALES COLLEGE, PRINCE EDWARD ISLAND.

Mr. Wilfrid Davison, the professor in charge of the Agricultural Instruction work at Prince of Wales College, gave up his work to serve the Empire, and in the summer of 1915, Professor S. B. McCready, formerly director of agricultural instruction in Ontario, was appointed to fill the vacancy.

The following papers, set for the Christmas examination, will indicate the character of the agricultural instruction being given at the College.

### FALL TERM EXAMINATIONS, 1915.

#### 3RD YEAR RURAL SCIENCE.

1. Discuss briefly the changes in rural and urban population in P. E. Island as shown by the 1901 and 1911 Censuses. Explain the causes of the changes and the probable population returns of future censuses.

2. By reference to the studies and lessons that might be made on a sunflower plant, compare the (a) method and (b) purpose of (1) Nature study (2) Elementary Science (botany) and (3) Elementary Agriculture.

3. Write brief descriptive and explanatory notes on (a) The Agricultural Gazette of Canada, (b) The Audubon Bird Charts, (c) A Weather Map, (d) The P. E. I. Egg and Poultry Co-operative Association, (e) A School Progress Club.

4. Explain the origin, terms, purposes and practical working in P. E. I. of the Agricultural Instruction Act passed by the Dominion Parliament in 1913.

5. Describe an ideal rural school and ideal scheme of education for rural communities in P. E. Island.

#### 1. RURAL SCIENCE.

1. TERM WORK, based on class work, records, home projects, etc.

#### NATURE STUDY.

2. On a full page of the examination paper make a diagram of the block of land on which the Prince of Wales College is located, marking on it (a) the names of the streets bounding the property, (b) the site of the college building, (c) the proposed school gardens for 1915, (d) the 1914 school garden, (e) the walks and driveways, (f) the points of the compass.



3. Write brief descriptive notes of any three of the following:—(a) daily weather map, (b) a monthly weather map, (c) a red-eyed vireo’s nest, (d) the trees on the grounds of Prince of Wales College, (e) the Audubon Bird Charts, (f) how a pigeon flies. *Or*

Give an account of three independent “nature studies” you have made this fall, stating clearly what you saw and learned.

ELEMENTARY AGRICULTURE AND HORTICULTURE.

4. Write a brief account of the wealth represented in the agricultural industry of Prince Edward Island. Compare and give the returns from the common crops.

5. Explain how to grow tulips for indoor winter blooming.

6. Show by diagrams the construction of (a) an extractor (b) a feeder used in bee-keeping, and explain why, how and when they are used.

7. Briefly outline the work carried on at (a) The Egg Candling Station, (b) The Prince Edward Island Experimental Farm. Explain how these may be made to serve the agricultural interests of the Province in the largest measure.

8. In 1914, according to the Experimental Farm report, it required 1,858 lbs. of hay, 1,871 lbs. of oats, 2,717 lbs. of bran, 10,315 lbs. of roots, and 5½ months of pasturing to feed the Farm dairy cow. Calculate the cost, allowing \$7 a ton for hay, \$25 a ton for oats and bran, \$2 a ton for roots, and \$1 a month for pasturage. She gave 7,881 lbs. of milk. At 5 cents a quart, what was the gain or loss, allowing a gallon of milk to weigh 10 lbs.

PEDAGOGY.

9. Explain this statement. “Nature study is a method of teaching and learning, as much as it is a subject.” What is meant by so-called “Nature Study” History and explain how it might be taught. *Or*,

Distinguish between Nature Study and Elementary Agriculture. What educational purposes are served in teaching these two subjects?

10. Write explanatory notes on (a) “The Brown Mouse,” (b) the work done up to the present on the proposed garden for rural schools at the south side of the Prince of Wales College (c) the method and advantages (or disadvantages) of using agricultural papers in rural schools. *Or*,

Does a farmer need a good education? Why? By reference to his work show what kind of education he should have; how will he get this?

NUMBER OF REGULAR STUDENTS ENROLLED FOR 1915-16 AT AGRICULTURAL COLLEGES AND SCHOOLS AND AT VETERINARY COLLEGES IN CANADA.

ONTARIO.

ONTARIO AGRICULTURAL COLLEGE, GUELPH.

Course for the Associate Diploma—	
First year.. . . .	120
Second year.. . . .	95
Course for the Degree of B.S.A.—	
Third year.. . . .	50
Fourth year.. . . .	48
Course of the Degree of B.Sc. (Agr.)—	
Third year.. . . .	1
Fourth year.. . . .	1
Total.. . . .	315



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MACDONALD INSTITUTE.

Domestic science courses.. . . . .	127
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QUEBEC.

MACDONALD COLLEGE, STE. ANNE DE BELLEVUE.

School of Agriculture—	
Regular course in Agriculture leading to Associate Diploma—	
First year.. . . . .	38
Second year.. . . . .	27
Leading to Degree of B.S.A.—	
Third year.. . . . .	23
Fourth year.. . . . .	18
Total.. . . . .	104

SCHOOL OF HOUSEHOLD SCIENCE.

Institution administration, senior.. . . . .	—
Institution administration, junior.. . . . .	11
Homemakers.. . . . .	35
Total.. . . . .	46

SCHOOL OF AGRICULTURE, STE. ANNE DE LA POCATIÈRE.

First year.. . . . .	21
Second year.. . . . .	10
Third year.. . . . .	17
Total.. . . . .	48

OKA AGRICULTURAL INSTITUTE, LA TRAPPE.

Practical or two-year course.. . . . .	37
Scientific or Four-year Course—	
First year.. . . . .	29
Second year.. . . . .	26
Third year.. . . . .	20
Fourth year.. . . . .	7
Total.. . . . .	119

MANITOBA.

MANITOBA AGRICULTURAL COLLEGE.

Agriculture—	
First year.. . . . .	27
Second year.. . . . .	62
Third year diploma.. . . . .	14
Third year degree.. . . . .	27
Fourth year.. . . . .	16
Fifth year.. . . . .	18
Total.. . . . .	128
Home Economics—	
First year.. . . . .	70
Second year.. . . . .	25
Third year.. . . . .	9
Total.. . . . .	104



SASKATCHEWAN.

COLLEGE OF AGRICULTURE, UNIVERSITY OF SASKATCHEWAN.

	Associate Course.	Degree Course.	Total.
First year.. . . . .	75	7	82
Second year.. . . . .	20	3	23
Third year.. . . . .	10	7	17
Fourth year.. . . . .	2	3	5
Affiliated colleges.. . . . .	.....	.....	10
Total.. . . . .	107	20	127

ALBERTA.

AGRICULTURAL SCHOOL, OLDS.

First year, boys, 60 ; girls, 38.. . . . .	98
Second year, boys, 23 ; girls, 7.. . . . .	30
Total.. . . . .	128

AGRICULTURAL SCHOOL, CLARESHOLM.

First year, boys, 45 ; girls, 28.. . . . .	73
Second year, boys, 21 ; girls, 9.. . . . .	30
Total.. . . . .	103

AGRICULTURAL SCHOOL, VERMILION.

First year, boys, 18 ; girls, 11.. . . . .	29
Second year, boys, 14 ; girls, 3.. . . . .	17
Total.. . . . .	46

UNIVERSITY OF ALBERTA, EDMONTON.

Faculty of agriculture.. . . . .	13
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NOVA SCOTIA.

AGRICULTURAL COLLEGE, TRURO.

First and second years.. . . . .	17
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VETERINARY COLLEGES.

ONTARIO VETERINARY COLLEGE, TORONTO.

First year.. . . . .	58
Second year.. . . . .	50
Third year.. . . . .	81
Total.. . . . .	189

LAVAL VETERINARY SCHOOL, MONTREAL.

First year.. . . . .	19
Second year.. . . . .	19
Third year.. . . . .	20
Total.. . . . .	58



SESSIONAL PAPER No. 15c

SUMMARY.

ONTARIO.

Agriculture.. . . .	315
Domestic science.. . . .	125
Quebec—	
Agriculture.. . . .	271
Household science.. . . .	46
Manitoba—	
Agriculture.. . . .	228
Home economics.. . . .	104
Saskatchewan—	
Agriculture.. . . .	137
Alberta—	
University Faculty of Agriculture.. . . .	13
Agricultural Schools—	
Students in agriculture.. . . .	181
Students in household science.. . . .	96
Veterinary colleges.. . . .	247
Total.. . . .	<u>1,750</u>

In addition to the number of regular students in agriculture and veterinary science, there are 27 Arts students taking an elective course in agriculture at the University of British Columbia, and 6 students are registered at Queen's University in the course of B. Sc. (Agr.).



## APPOINTMENTS BY PROVINCES AGRICULTURAL INSTRUCTION ACT.

## ONTARIO.

Officers, regularly employed, whose salaries are paid wholly from the Agricultural Instruction grant.

*Ontario Agricultural College, Guelph.*

Lecturer in Poultry, F. N. Marcellus, B.S.A.  
 Lecturer in Farm Management, A. Leitch, B. S. A.  
 Demonstrator in Horticulture, H. S. Fry, B.S.A.  
 Demonstrator in Chemistry, W. L. Iveson, M.A.  
 Lecturer in Animal Husbandry, J. P. Sackville, B.S.A.  
 Poultry Specialist, J. P. Hales, B.S.A.  
 Horticulturist, G. J. Culham, B.S.A.  
 Assistant in Soil Work, F. Bryant.  
 Assistant in Drainage Work, A. E. McLaurin.  
 Assistant in Drainage Work, C. M. Laidlaw.  
 Assistant Apiarist, Geo. F. Kingsmill.

*Department of Agriculture, Toronto.*

Vegetable Specialist, S. C. Johnston, B.S.A.  
 Director, Corporation and Markets Branch, F. C. Hart, B.S.A.  
 Stenographer, Markets Branch, Miss Reid.  
 NOTE.—*District representatives, their assistants and office help are not included.*

*Department of Education, Toronto.*

Director of Elementary Agricultural Education, Dr. J. B. Dandeno.

NOTE.—*Field agents and others employed during the summer season are not included.*

*Ontario Veterinary College, Toronto.**(Part-time lecturers.)*

Instructor in Clinics and Restraint of Animals, J. N. Pringle, M.R.C.V.S.  
 Demonstrator in Histology and Bacteriology, M. D. McKiehan, B.A., M.D.  
 Demonstrator in Histology, H. G. Wilson, B.A., M.B.  
 Examiner, S. A. Cudmore, B. A. (Oxon.)

## QUEBEC.

(A.)—List of persons, regularly employed, whose salaries are paid wholly from the Agricultural Instruction grant:

Instructor, Rev. J. B. A. Allaire, St-Thomas-d'Aquin, St. Hyacinthe Co.  
 “ L. P. Belzile, Dept. of Agriculture, Quebec.  
 “ Raoul Dumaine, St. Guillaume d'Upton, Yamaska Co.  
 “ J. G. Morgan, Dept. of Agriculture, Quebec.  
 “ Bacon Industry, A. C. St. Pierre, St. Vallier, Bellechasse Co.  
 “ J. M. Talbot, Dept. of Agriculture, Quebec.



SESSIONAL PAPER No. 15c

Expert, Bacon Industry, A. Hansen, Dept. of Agriculture, Quebec.  
 Seed Expert, Louis Lavallée, St. Guillaume, Yamaska Co.  
 Entomologist, Rev. V. A. Huard, Quebec Seminary, Quebec.  
 Horticulturist, J. H. Lavoie, Dept. of Agriculture, Quebec.  
 Poultry Superintendent, Rév. Frère Liguori, Dept. of Agriculture, Quebec.  
 Poultry Superintendent, Léon Picard, Dept. of Agriculture, Quebec.  
 District Agronomist, H. Cloutier, Rougemont, Rouville.  
 “ J. M. Leclair, Dept. of Agriculture, Quebec.  
 “ R. A. Rosseau, Acton-Vale, Bagot Co.  
 “ Alp. Désilets, L'Ange Gardien, Montmorency Co.  
 “ J. C. Magnan, St. Casimir, Portneuf Co.  
 “ Abel Raymond, St. Vallier, Bellechasse Co.  
 Asst. District Agronomist, J. A. Fortin, St. Casimir, Portneuf Co.  
 “ Alph. Paquet, L'Ange Gardien, Montmorency Co.  
 Lecturer, Rév. Ol. Martin, St. Dénis, Kamouraska, Co.  
 “ Rév. A. Michaud, St. Philippe de Néri.  
 Clerk, J. D. Barbeau, 142 rue Sauvageau, Quebec.  
 “ L. E. Kronstrom, Rue Wolfe, Lévis.  
 “ O. Roberge, Ste. Rosalie, Bagot.

(B.)—List of persons, regularly employed, whose salaries are paid in part from the Agricultural Instruction grant:—

Comptable, J. Arthur Paquet, Department of Agriculture.

*College of Agriculture.*

Ste. Anne de la Pocatière, Kamouraska.

The salaries of the following are paid wholly from the Federal Subsidy:—

Professor of Arboriculture, R.R. P. Levasseur.

“ Horticulture, A. Létourneau.

“ Mathematics, E. Bernier.

“ Agronomy, M.M. F. N. Savoie.

Professor, M. Robert Leboue.

Professor, Aimé Boutet.

Director and Professor, R.R. Noel Pelletier.

Assistant Director and Professor, H. Bois.

Entomologist, A. Beaudoin.

Assistant chef de pratique générale, M.M. Philéas Boulet.

Arboriculturist, Albert Jalbert.

Instructor in Dairying, Ernest Lizotte.

Instructor in Horticulture, J. A. Gosselin.

Instructor, Francois Dionne.

“ Alfred Robichaud.

Serviteur, M. Stanislas LeBel.

The salaries of the following are paid in part from the Federal Subsidy:—

Professor of Chemistry, M.M. Georges Bouchard.

Instructor in Poultry work, Alfred Grégoire.

Instructor, Alfred Robichaud.

“ Nap. Arton.

*The Oka Agricultural Institute.*

La Trappe, P.Q.

The salaries of the following are paid wholly from the Federal Subsidy:—

Director, R.R. Père Jean de la Croix.



Chef Générale de Pratique, Fr. Sébastien.

“ “ Fr. Gérard.

Préfet de Discipline, Fr. Roch.

Anmonier, P.P. Hubert.

“ Yves.

Institute Secretary, D. Fortin.

Professor of Physics, J. W. Ponton.

“ Génie Rural, P. Maur.

“ Agriculture, Phillipe Roy.

“ Entomology, Firmin Létourneau.

“ Veterinary Medicine, Dr. A. Dauth, Montreal.

Professor of Apiculture, R.R. Père Maur.

“ Horticulture, R.R. Père Athanese.

“ Poultry Husbandry, Frère Wilfrid.

Instructor, Agricultural Engineering, H. Nagant.

“ Horticulture, L. Arscott.

Vergers et Pépinière, P. Honoré.

The salaries of the following are paid in part from the Federal Subsidy:—

Professor of English, R.R. Frère Benjamin.

“ Arboriculture, Père Léopold

“ Frère Isidore.

#### QUEBEC.

##### *Macdonald College.*

Officers, regularly employed, whose salaries are paid wholly from the Agricultural Instruction grant:

Crop Investigator, P. A. Boving, Cand. Phil., Cand. Agr.

Veterinarian, N. E. McEwan, V.S., D.V.M.

Sheep Husbandry, A. A. McMillan, B.S.A.

Asst. in Biology, E. M. Duporte, B.S.A., M.Sc.

“ Physics, R. Dougall, B.S.A.

“ Animal Husbandry, A. E. MacLaurin, B.S.A.

“ Chemistry, J. G. Van Zoeren.

Demonstrator Homemakers' Clubs, Miss F. Campbell.

Rural School Demonstrator, J. E. McOuat, B.S.A.

#### MANITOBA.

(A.)—Officers, regularly employed, whose salaries are paid wholly from the Agricultural Instruction grant:—

Instructor Chemistry, A. J. Galbraith, Manitoba Agricultural College.

Instructress Household Art, Mrs. C. L. Groff, Manitoba Agricultural College.

Commissioner, Dairy, W. J. Crowe, Dept. of Agriculture, Winnipeg.

Inspector, Demonstration Farms, G. H. Jones, Dept. of Agriculture, Winnipeg.

Inspector, Dairy Products, L. A. Gibson Dept. of Agriculture, Winnipeg.

District Representative, L. V. Lohr, Neepawa.

“ “ W. T. G. Wiener, Morris.

“ “ H. F. Danielson, Arborg.

“ “ N. S. Smith, Killarney.

Bee Representative, R. M. Muckle, Dept. of Agriculture, Winnipeg.

Instructress Home Economics, Miss Gowsell, Manitoba Agricultural College.

“ “ Miss Crawford, Manitoba Agricultural College.

Clerk, Wm. Johnstone, Manitoba Agricultural College.



SESSIONAL PAPER No. 15c

Stenographer, Miss Hay, Manitoba Agricultural College.

(B.)—Officers, regularly employed, whose salaries are paid in part from the Agricultural Instruction grant:

Horticulture, J. A. Neilson, Manitoba Agricultural College.

Accountant, J. P. Grant, Dept. of Agriculture, Winnipeg.

Representative and Lecturer, J. E. Sirette, Roblin, Man.

SASKATCHEWAN.

(A.)—Officers, regularly employed, whose salaries are paid wholly from the Agricultural Instruction grant:

Field Representative, \*A. J. McPhail, Dept. of Agriculture, Regina.

“ “ \*E. H. Hawthorne, Dept. of Agriculture, Regina.

“ “ J. W. Hunter, Dept. of Agriculture, Regina.

Dairy Inspector, J. A. McDonald, Dept. of Agriculture, Regina.

Director. Co-operative Work, W. W. Thomson, Dept. of Agriculture, Regina.

Professor Cereal Husbandry, G. H. Cutler, College of Agriculture, Saskatoon.

Professor Animal Husbandry, A. M. Shaw, College of Agriculture, Saskatoon.

Asst. Professor Animal Husbandry, H. J. Tisdale, Col. of Agriculture, Saskatoon.

“ Agricultural Engineering, J. McGregor Smith, College of Agriculture, Saskatoon.

“ Poultry Husbandry, R. K. Baker, College of Agriculture, Saskatoon.

“ Dairying, K. G. McKay, College of Agriculture, Saskatoon.

“ Physics, A. E. Hemmings, College of Agriculture, Saskatoon.

“ Chemistry, I. Thorvaldson, College of Agriculture, Saskatoon.

Instructor in Chemistry, S. L. Basterfield, College of Agriculture, Saskatoon.

Asst. in Soil Analysis, J. G. Lewis, College of Agriculture, Saskatoon.

“ “ C. Bridgeman, College of Agriculture, Saskatoon.

“ “ F. J. Freer, College of Agriculture, Saskatoon.

“ Animal Husbandry, John Strain, College of Agriculture, Saskatoon.

“ Field Husbandry, H. Saville, College of Agriculture, Saskatoon.

“ “ H. Henne, College of Agriculture, Saskatoon.

“ “ S. Wright, College of Agriculture, Saskatoon.

“ “ G. Fountain, College of Agriculture, Saskatoon.

Director of Women's Work, Miss A. DeLury, College of Agriculture, Saskatoon.

Lecturer for Homemakers' Clubs, Miss Daisy Harrison, College of Agriculture, Saskatoon.

Director, School of Agriculture, F. W. Bates, Dept. of Education, Saskatoon.

“ “ A. W. Cocks, Dept. of Education, Regina.

“ “ Miss F. A. Twiss, Dept. of Education, Regina.

(B.)—Officers, regularly employed, whose salaries are paid in part from the Agricultural Instruction grant:

Asst. Cooperative Work, Q. G. Mawhinney, Dept. of Agriculture, Regina.

District Representative, J. G. Rayner, North Battleford.

District Representative, T. L. Guild, Shaunavon.

“ “ \*Wm. Betts, Rosetown.

“ “ \*J. L. Brown, Swift Current.

Field Representative, Live Stock, F. H. C. Green, Dept. of Agriculture, Regina.

(C.)—Officers employed a part of each year whose salaries are paid from the Agricultural Instruction grant:

Field Representative, E. W. Brett, Live Stock Branch, Dept. of Agriculture, Regina.

“ “ J. S. Fulton, Live Stock Branch, Dept. of Agriculture, Regina.

\*Enlisted.



6 GEORGE V, A. 1916

Field Representative, W. A. McCorkell, Dairy Branch, Dept. of Agriculture, Moosomin.

“ Jas. Graham, Dairy Branch, Dept. of Agriculture, Oxbow.

“ L. C. Wirtz, Dairy Branch, Dept. of Agriculture, Wadena.

“ L. E. Kirk, Weeds Branch, Dept. of Agriculture, Saskatoon.

\*Enlisted.

#### ALBERTA.

(A.)—Officials of Schools of Agriculture, whose salaries are paid wholly from the Agricultural Instruction Grant:

Instructor in Dairying and Dairy Farming, S. G. Carlyle, Dept. of Agriculture, Edmonton.

(B.)—Officials of Schools of Agriculture whose salaries are paid in part from the Agricultural Instruction grant:

Principal, F. S. Grisdale, Vermilion.

Instructor in Science, E. S. Hopkins, Vermilion.

Instructor in Farm Mechanics, L. Shanks, Vermilion.

Instructor in Animal Husbandry, H. H. McIntyre, Vermilion.

Plotman, Alex. Carlyle, Vermilion.

Instructor in Domestic Science, Fern Hotton, Vermilion.

Asst. Instructor in Domestic Science, A. M. Lavalee, Vermilion.

Stenographer, Dorothy Thompson, Vermilion.

Instructor in Home Nursing, Laurie Coates, Vermilion.

Principal, W. J. Elliott, Olds.

Agricultural Mechanics, G. R. Holeton, Olds.

Instructor in Science, Jas. G. Taggart, Olds.

Agronomist, O. S. Longman, Olds.

Instructor in English, J. H. McNally, Olds.

Instructor, Household Science, Marjorie M. Goldie, Olds.

Asst. Instructor, Household Science, Ada M. Davis, Olds.

Stenographer, Edith J. Murray, Olds.

Labourer, Geo. Moffat, Olds.

Dairy Tester, Alex. Lamont, Olds.

Principal, W. J. Stephen, Claresholm.

Instructor in English and Elementary Science, J. C. Hooper, Claresholm.

Instructor, Animal Husbandry, H. W. Scott, Claresholm.

Instructor in Agricultural Mechanics, A. E. Qually, Claresholm.

Instructor in Domestic Science, Myrtle A. Hayward, Claresholm.

Asst. Instructor, Domestic Science, Grace Robertson, Claresholm.

Stenographer, Mabel Moir, Claresholm.

Labourer on Plots, Chas. G. Price, Claresholm.

(C.)—Officials of Women's Institutes, whose salaries are paid wholly from the Agricultural Instruction grant:

Superintendent, Miss Mary McIsaacs, Dept. of Agriculture, Edmonton.

Assistant, Miss A. T. Carlyle, Dept. of Agriculture, Edmonton.

#### BRITISH COLUMBIA.

(A.)—Officers, regularly employed, whose salaries are paid wholly from the Agricultural Instruction grant:

Director, Elementary Agricultural Education, J. W. Gibson, Victoria.

District Supervisor, Elementary Agricultural Education, J. C. Readey, Chilliwack.

Markets Commissioner, R. C. Abbott, Vancouver.



SESSIONAL PAPER No. 15c

Asst. Veterinary Inspector, D. M. Sparrow, Vancouver.

“ “ D. H. McKay, Chilliwack.

“ “ W. T. Brookes, Ladysmith.

Asst. Plant Pathologist, M. H. Ruhmann, Vernon.

Asst. Agriculturist, S. F. Dunlop, Telkwa.

Silo Operator, J. Ferris, Victoria.

Asst. Horticulturist, M. H. Howitt, Prince Rupert.

“ E. C. Hunt, Grand Forks.

Instructor, Soil and Crops, W. Newton, Victoria.

Caretaker, egg-laying contest, W. H. Stroyan, Victoria.

(B.)—Officers, regularly employed, whose salaries are paid partly from the Agricultural Instruction grant:

Cow-tester, L. H. Thornbery.

“ A. White, Courtenay.

“ E. Rive, Ladner.

The above list does not include seasonal appointments.

NOVA SCOTIA.

(A.)—List of persons, regularly employed, whose salaries are paid wholly from the Agricultural Instruction grant:

County Representative, H. McPherson, Antigonish County.

“ “ H. S. Cunningham, Cape Breton County.

“ “ H. B. Langille, Cape Breton County.

“ “ J. M. McKenzie, Cape Breton County.

“ “ C. M. Dickie (part time), Lunenburg County.

Asst. Provincial Dairy Supt., W. J. Baird, Dept. of Agriculture, Truro.

Asst. Provincial Entomologist, C. A. Good, Dept. of Agriculture, Truro.

Entomological Field Work Supt., H. G. Payne, Dept. of Agriculture, Truro.

Drainage Surveys, A. E. Humphrey, Dept. of Agriculture, Truro.

Soil Analyst, V. B. Robinson, Dept. of Agriculture, Truro.

Women's Institute, Supt., Miss Jennie A. Fraser, New Glasgow.

Director Rural Science, L. A. DeWolfe, Truro.

Dean Rural Science Schools, C. L. Moore, Halifax.

(B.)—List of persons, regularly employed, whose salaries are paid in part from the Agricultural Instruction grant:

Dairy Supt., W. A. McKay, Truro.

Accountant, C. R. B. Bryan, Truro.

Prof. of Agriculture, J. M. Trueman, Agricultural College, Truro.

Prof. of Horticulture, P. J. Shaw, Agricultural College, Truro.

Prof. of Zoology, W. H. Brittain, Agricultural College, Truro.

Prof. of Botany, H. W. Smith, Agricultural College, Truro.

Prof. of Chemistry, J. M. Scott, Normal College, Truro.

Prof. of Physics, J. A. Benoit, Normal College, Truro.

Prof. of Normal Training, F. G. Mathews, Normal College, Truro.

Agricultural Instructor, E. C. Allen, Yarmouth Academy.

Drainage and Field Experiments, \*B. H. Landels, Agricultural College, Truro.

Entomological Inspector, J. P. Spittall, Agricultural College, Truro.

“ “ W. W. Whitehead, Agricultural College, Truro.

“ “ L. G. Saunders, Agricultural College, Truro.

“ “ F. C. Gillatt, Agricultural College, Truro.

“ “ L. M. Howe, Agricultural College, Truro.

“ “ C. F. W. Whitman, Agricultural College, Truro.

\*Enlisted.



## NEW BRUNSWICK.

Officers, regularly employed, whose salaries are paid wholly from the Agricultural Instruction grant:

Provincial Horticulturist, A. G. Turney, B.S.A., Fredericton.

1st Asst. Horticulturist, R. P. Gorham, B.S.A., Fredericton.

Dairy Superintendent, L. C. D'Aigle, Moncton.

“ “ C. W. McDougall, Sussex.

Asst. Dairy Superintendent, N. W. Eveleigh, Sussex.

Poultry Superintendent and Bee-keeping, Seth Jones, Sussex.

Instructor in Fertilizers, H. B. Durost, Woodstock.

Entomologist, William McIntosh, St. John.

Supt. Agricultural Societies, J. E. DeGrace, Petit Roches.

Director Elem. Agricultural Education, R. P. Steeves, Sussex.

Asst. Field Husbandman, B. T. Reed, Woodstock.

Supervisor, Women's Institutes, Hazel E. Winter, Fredericton.

The following, having enlisted for overseas service, are not now under pay, but their positions are being held open for them for one year:

R. Newton, Director Agricultural Schools and Field Husbandman.

W. D. Ford, Animal Husbandman.

D. B. Flewelling, 2nd Asst. Horticulturist.

## PRINCE EDWARD ISLAND.

(A.)—Officers, regularly employed, whose salaries are paid wholly from the Agricultural Instruction grant:

Director Agricultural Instruction, W. R. Reek, B.S.A., Dept. of Agriculture, Charlottetown.

Head of Rural Science Dept., Prince of Wales College, S. B. McCready, Dept. of Agriculture, Charlottetown.

Asst. Secy. of Agriculture, Norman McLeod, Dept. of Agriculture, Charlottetown.

Director, Agricultural Instruction in Public Schools, \*Charles Buxton, Alma.

“ “ “ “ D. S. Fraser, Tyne Valley.

“ “ “ “ Walter Curtis, M.A., Milton.

“ “ “ “ William Cain, New Perth.

“ “ “ “ Gerald McCarthy, Tignish.

“ “ “ “ L. A. Adams, Montague.

District Representative, W. J. Reid, B.S.A., Summerside.

“ “ Leslie Tennant, B.S.A., Charlottetown.

Instructor in Field Husbandry, \*Wilfrid Davison, B.S.A., Charlottetown.

Asst. Supervisor of Women's Institutes, Miss Hazel Sterns, Charlottetown.

Asst. Supervisor of Women's Institutes, Miss Alberta Macfarlane, Charlottetown.

Accountant, Miss A. W. Newbery, Charlottetown.

Stenographer, Miss Bessie Alward, Summerside.

(B.)—Officers, regularly employed, whose salaries are paid partly from the Agricultural Instruction grant:

Secy. of Agriculture, Theodore Ross, B.A., Dept. of Agriculture, Charlottetown.

\*Enlisted.























